```
                485                   490                   495
Asp Asp Ser Tyr Thr Cys Glu Cys Pro Arg Gly Phe His Gly Lys His
            500                   505                   510
Cys Glu Lys Ala Arg Pro His Leu Cys Ser Ser Gly Pro Cys Arg Asn
        515                   520                   525
Gly Gly Thr Cys Lys Glu Ala Gly Gly Glu Tyr His Cys Ser Cys Pro
        530                   535                   540
Tyr Arg Phe Thr Gly Arg His Cys Glu Ile Gly Lys Pro Asp Ser Cys
545                   550                   555                   560
Ala Ser Gly Pro Cys His Asn Gly Gly Thr Cys Phe His Tyr Ile Gly
                565                   570                   575
Lys Tyr Lys Cys Asp Cys Pro Pro Gly Phe Ser Gly Arg His Cys Glu
            580                   585                   590
Ile Ala Pro Ser Pro Cys Phe Arg Ser Pro Cys Val Asn Gly Gly Thr
        595                   600                   605
Cys Glu Asp Arg Asp Thr Asp Phe Phe Cys His Cys Gln Ala Gly Tyr
        610                   615                   620
Met Gly Arg Arg Cys Gln Ala Glu Val Asp Cys Gly Pro Pro Glu Glu
625                   630                   635                   640
Val Lys His Ala Thr Leu Arg Phe Asn Gly Thr Arg Leu Gly Ala Val
                645                   650                   655
Ala Leu Tyr Ala Cys Asp Arg Gly Tyr Ser Leu Ser Ala Pro Ser Arg
            660                   665                   670
Ile Arg Val Cys Gln Pro His Gly Val Trp Ser Glu Pro Pro Gln Cys
            675                   680                   685
Leu Gly Asp Ser Val Gly
        690
```

```
<210> 5329
<211> 2582
<212> DNA
<213> Homo sapiens
```

```
<400> 5329
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gtcccgactg caaacattga ggaaagccag gcagtagagg ccgctatggc gaacgttccg
120
tgggcagagg tctgcgagaa attccaggcg gcgctcgctc tgtcgcgggt ggaactgcat
180
aaaaatccgg agaaggaacc atacaagtcc aaatacagcg cccgggcgct actggaagag
240
gtcaaggcgc tgctcggccc tgcgcctgag gacgaggatg agcggcctga ggccgaggac
300
ggcccgggtg ccggtgacca cgccctgggg ctgccggctg aggtggtgga gcccgagggg
360
cccgtcgccc agcgagcggt gaggctggca gtcatcgagt ccacctcgg ggtgaaccac
420
atcgacacgg aggagctgtc ggcggggag gagcacctgg tgaaatgcct gcggctgctg
480
cgcaggtacc ggctctcgca cgactgcatc tctctctgca tccaggcgca gaataacctg
540
ggtatcttgt ggtctgaaag agaagaaatt gaaactgcac aggcttacct agagtcatca
600
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gaagcactat ataatcagta tatgaaagag gttgggagtc ctcctcttga tcctactgag
660
cgttttcttc ctgaagaaga gaaacttact gaacaagaga gatcaaaaag atttgaaaag
720
gtttatactc ataacctata ttacctagct caagtctacc agcatctgga aatgtttgag
780
aaggctgctc actattgcca tagtacacta aaacgccagc ttgagcacaa tgcctaccat
840
cctatagagt gggctatcaa tgctgctacc ttgtcacagt tttacatcaa taagctatgc
900
tttatggagg ccaggcactg tttatcagct gctaatgtca tttttggtca aactggaaag
960
atctcagcca cagaagacac tcctgaagct gaaggagaag tgccagagct ttatcatcaa
1020
agaaagggg aaatagcaag gtgctggatc aaatactgtt tgactctcat gcagaatgcc
1080
caactctcca tgcaggacaa cataggagag cttgatcttg ataaacagtc tgaacttaga
1140
gctttaagga aaaagaact agatgaggag gaaagcattc ggaaaaaagc tgtgcagttt
1200
ggaaccggtg aactgtgtga tgccatctct gcagtagaag agaaagtgag ctacttgaga
1260
cctttagatt ttgaagaagc cagagaactt ttcttattgg gtcagcacta tgtctttgag
1320
gcaaaagagt tctttcagat tgatggttat gtcactgacc atattgaagt tgtccaagac
1380
cacagtgctc tgtttaaggt gcttgcattc tttgaaactg acatggagag acggtgcaag
1440
atgcataaac gcagaatagc catgctagag cccctaactg tagacctgaa tccacagtat
1500
tatctgttgg tcaacagaca gatccagttt gaaattgcac atgcttacta tgatatgatg
1560
gatttgaagg ttgccattgc tgacaggcta agggaccccg actcacacat tgtaaaaaaa
1620
ataaataatc ttaataagtc ggcactcaag tactaccagc tcttcctaga ctccctgaga
1680
gacccaaaca aagtctttcc tgagcacatc ggggaagacg tcctccgccc ggccatgtta
1740
gctaaattcc gggtagctcg tctgtatggc aaaatcatta ctgcagatcc caagaaagag
1800
ctggaaaatt tggcaacatc attggaacat tacaaattta ttgttgatta ctgtgaaaag
1860
catcctgagg ccgcccagga aatagaagtt gagctagaac ttagtaaaga gatggttagt
1920
cttctcccaa caaaaatgga gagattcaga accaagatgg ccctgactta atccttgttt
1980
ttaaagaaag gaaatgtgca atattgaagt gatctttttc cctagtcaga caggcccaat
2040
tccattgtga tgtttacctt tatagccagg tgagtgcagt ttgaacttga gatacagtca
2100
actgagtgtt tgctaggatc ctaaggaaca taaagttaat taaaaactta cacctaatta
2160
tgtaaattgc cttgttaaag acatgtgatt tgtattttag atgcttgttt cctattaaaa
2220
```

4502

tacagacatt tctaccctca gtttctaaat gtagactatt tgttggctag tacttgatag
2280
attccttgta agaaaaaatg ctgggtaatg tacctggtaa caagcctgtt aatatattaa
2340
gattgaaaaa gtaacttcta tagttactcc ttctaaaata tttgacttcc tacattcccc
2400
ccacccaaaa tctttccctt ttgaaaatac taaaaactaa gttatgttat tataaagtgt
2460
aaaatggttt gtcttaatta taggagaaaa aggccttgtt agaaataaaa taaactgact
2520
tatttcacta atgaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaagaaaaa
2580
aa
2582

<210> 5330
<211> 308
<212> PRT
<213> Homo sapiens

<400> 5330
Trp Ile Lys Tyr Cys Leu Thr Leu Met Gln Asn Ala Gln Leu Ser Met
1   5   10   15
Gln Asp Asn Ile Gly Glu Leu Asp Leu Asp Lys Gln Ser Glu Leu Arg
                20   25   30
Ala Leu Arg Lys Lys Glu Leu Asp Glu Glu Ser Ile Arg Lys Lys
            35   40   45
Ala Val Gln Phe Gly Thr Gly Glu Leu Cys Asp Ala Ile Ser Ala Val
        50   55   60
Glu Glu Lys Val Ser Tyr Leu Arg Pro Leu Asp Phe Glu Glu Ala Arg
65   70   75   80
Glu Leu Phe Leu Leu Gly Gln His Tyr Val Phe Glu Ala Lys Glu Phe
                85   90   95
Phe Gln Ile Asp Gly Tyr Val Thr Asp His Ile Glu Val Val Gln Asp
            100   105   110
His Ser Ala Leu Phe Lys Val Leu Ala Phe Phe Glu Thr Asp Met Glu
        115   120   125
Arg Arg Cys Lys Met His Lys Arg Arg Ile Ala Met Leu Glu Pro Leu
    130   135   140
Thr Val Asp Leu Asn Pro Gln Tyr Tyr Leu Leu Val Asn Arg Gln Ile
145   150   155   160
Gln Phe Glu Ile Ala His Ala Tyr Tyr Asp Met Met Asp Leu Lys Val
                165   170   175
Ala Ile Ala Asp Arg Leu Arg Asp Pro Asp Ser His Ile Val Lys Lys
            180   185   190
Ile Asn Asn Leu Asn Lys Ser Ala Leu Lys Tyr Tyr Gln Leu Phe Leu
        195   200   205
Asp Ser Leu Arg Asp Pro Asn Lys Val Phe Pro Glu His Ile Gly Glu
    210   215   220
Asp Val Leu Arg Pro Ala Met Leu Ala Lys Phe Arg Val Ala Arg Leu
225   230   235   240
Tyr Gly Lys Ile Ile Thr Ala Asp Pro Lys Lys Glu Leu Glu Asn Leu
                245   250   255
Ala Thr Ser Leu Glu His Tyr Lys Phe Ile Val Asp Tyr Cys Glu Lys

```
              260              265              270
His Pro Glu Ala Ala Gln Glu Ile Glu Val Glu Leu Glu Leu Ser Lys
         275              280              285
Glu Met Val Ser Leu Leu Pro Thr Lys Met Glu Arg Phe Arg Thr Lys
     290              295              300
Met Ala Leu Thr
305


<210> 5331
<211> 1069
<212> DNA
<213> Homo sapiens

<400> 5331
aaatttgcac tagagtatcg cacaaccagg gaaagggttt tgcagcagaa acagaaacgg
60
gccaaccaca gagagagaaa taagaccaga gggaagatga tcaccgattc tggcaagttc
120
tccggcagtt ctccggcgcc cccaagccag ccgcagggtc tgagctatgc gngaggacgc
180
ggctgagcac gagaacatga aggctgtgct gaaaacctcg tccccctccg tggaggacgc
240
cacccccgcg ctgggcgtcc gcacacgcag ccgagcaagc cgnnaggatc cactagttcc
300
tggactatgg gaactgatga ctcgcccaat gtcacagatg atgcagctga tgagatcatg
360
gaccgcatcg tcaagtcagc cacccaagtg cccagtcagc gagtggtgcc gagggagagg
420
aaacgatccc gggccaaccg gaaatctttg cgaagaaccc tgaagagcgg cctgacccca
480
gaagaagcca gagccctggg cttggttggc acctcggagt tgcagctgtg acactcatag
540
gttactccca ggagtgtgct gagcagaagg caagctcttg ctggatgaaa cccctccagg
600
tggggttggg gagacttgat attcacatcc aacagtttga aaagggagag ctcaattccc
660
agcgtcaccc catggcttgt gttgcctgct acgcattgac ttggatctcc aggagtcccc
720
tgcacatacc ttctccatcg tgtcagctgt gtttctcttg attccgtgac acccggttta
780
ttagttcaaa agtgtgacac cttttctggg caaggaacag cccctttaag gagcaaatca
840
cttctgtcac agttattatg gtaatatgag gcaatctgat tagcttcaca gactgagtct
900
ccacaacacc aaaatatcca gatgtaaacc ccaaacttgt acacaaaaga aagcacagat
960
tgtttacctg ttgtggattt tagatgtaac aaatgtttat acaaatacat acatgtacac
1020
catgtttcaa atactaaata aatagagttt aatgccaaaa aaaaaaaaa
1069


<210> 5332
<211> 61
<212> PRT
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4504

<213> Homo sapiens

<400> 5332
Lys Phe Ala Leu Glu Tyr Arg Thr Thr Arg Glu Arg Val Leu Gln Gln
1   5   10   15
Lys Gln Lys Arg Ala Asn His Arg Glu Arg Asn Lys Thr Arg Gly Lys
            20   25   30
Met Ile Thr Asp Ser Gly Lys Phe Ser Gly Ser Ser Pro Ala Pro Pro
        35   40   45
Ser Gln Pro Gln Gly Leu Ser Tyr Ala Xaa Gly Arg Gly
    50   55   60

<210> 5333
<211> 883
<212> DNA
<213> Homo sapiens

<400> 5333
gagccgccgg gagctgtagt tctcccgcgg tcactggaag taggcagaga gcggacctgg
60
cggccgggca gcatggcggg gctggagctc ttgtcggacc agggctaccg ggtggacggg
120
cggcgcnngc gggagctgcg caagatccag gcgcggatgg gcgtgttcgc gcaggctgac
180
ggctcggcct acattgagca gggcaacacc aaggcactgg ctgtggtcta cggcccgcac
240
gagatccggg gctcccgggc tcgagccctg ccggacaggg ccctagtgaa ctgtcaatat
300
agttcagcga ccttcagcac aggtgagcgc aagcgacggc cacatgggga ccgtaagtcc
360
tgtgagatgg gcctgcagct ccgccagact ttcgaagcag ccatcctcac acagctgcac
420
ccacgctccc agattgatat ctatgtgcag gtgctacagg cagatggtgg gacctatgca
480
gcttgtgtga atgcagccac gctggcagtg ctggatgccg ggatacccat gagagacttt
540
gtgtgtgcgt gctcagctgg cttcgtggac ggcacagccc tggcggacct cagccatgtg
600
gaggaagcag ctggtggccc ccagctggcc ctggccctgc tgccagcctc aggacagatt
660
gcgctgcttg agatggatgc ccggctgcac gaggaccacc tggagcgggt gttggaggct
720
gctgcccagg ctgcccgaga tgtgcacacc ctcttagatc gagtggtccg gcagcatgtg
780
cgtgaggcct ctatcttgct gggggactga ccacccagcc acccatgtcc agaataaaac
840
cctcctctgc ccacaaaaaa aaaaaaaaaa aaaaaaaaa aaa
883

<210> 5334
<211> 269
<212> PRT
<213> Homo sapiens

```
<400> 5334
Glu Pro Pro Gly Ala Val Val Leu Pro Arg Ser Leu Glu Val Gly Arg
  1           5               10              15
Glu Arg Thr Trp Arg Pro Gly Ser Met Ala Gly Leu Glu Leu Leu Ser
          20              25              30
Asp Gln Gly Tyr Arg Val Asp Gly Arg Arg Xaa Arg Glu Leu Arg Lys
      35              40              45
Ile Gln Ala Arg Met Gly Val Phe Ala Gln Ala Asp Gly Ser Ala Tyr
  50              55              60
Ile Glu Gln Gly Asn Thr Lys Ala Leu Ala Val Val Tyr Gly Pro His
65              70              75              80
Glu Ile Arg Gly Ser Arg Ala Arg Ala Leu Pro Asp Arg Ala Leu Val
              85              90              95
Asn Cys Gln Tyr Ser Ser Ala Thr Phe Ser Thr Gly Glu Arg Lys Arg
          100             105             110
Arg Pro His Gly Asp Arg Lys Ser Cys Glu Met Gly Leu Gln Leu Arg
      115             120             125
Gln Thr Phe Glu Ala Ala Ile Leu Thr Gln Leu His Pro Arg Ser Gln
      130             135             140
Ile Asp Ile Tyr Val Gln Val Leu Gln Ala Asp Gly Gly Thr Tyr Ala
145             150             155             160
Ala Cys Val Asn Ala Ala Thr Leu Ala Val Leu Asp Ala Gly Ile Pro
              165             170             175
Met Arg Asp Phe Val Cys Ala Cys Ser Ala Gly Phe Val Asp Gly Thr
          180             185             190
Ala Leu Ala Asp Leu Ser His Val Glu Glu Ala Ala Gly Gly Pro Gln
      195             200             205
Leu Ala Leu Ala Leu Leu Pro Ala Ser Gly Gln Ile Ala Leu Leu Glu
      210             215             220
Met Asp Ala Arg Leu His Glu Asp His Leu Glu Arg Val Leu Glu Ala
225             230             235             240
Ala Ala Gln Ala Ala Arg Asp Val His Thr Leu Leu Asp Arg Val Val
              245             250             255
Arg Gln His Val Arg Glu Ala Ser Ile Leu Leu Gly Asp
              260             265
```

```
<210> 5335
<211> 4282
<212> DNA
<213> Homo sapiens
```

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<400> 5335
gccggatcgg cggagggggcc gggccaggga gcctcagccc cgccggcagc cctaaggcga
60
aggtaaccgc cacggggtcc ccgtcgcgac cccctccctc ccggagctcc cgtccccggg
120
atcccaagct ccgccccgcc accgacccccgtc tccctggac cccggctcta gcctgacgag
180
atcccaacc tcctgaggtg ctctggcccc ggattctccc gggctgcatt ctctgctcct
240
cctcgcctgc gaagcatcac gtccgcttcc cgacgctgag ggcagccccg tccagggcag
300
tggctctgcc aatgatcctg tgagtattca ggaatcactg ttgcccctgg ggatccttgt
360
```

```
cctggagtgg cccacctgct tgcccccagc atggcgtccg acactcccga gtcgctgatg
420
gccctctgta ctgacttctg cttgcgcaac ctggatggca ccctgggcta cctgctggac
480
aaggagaccc tgcggctaca tccggacatc ttcttgccca gcgagatctg tgaccggctc
540
gtcaatgagt atgtggagct ggtgaacgct gcctgtaact tcgagccaca cgagagcttc
600
ttcagcctct tttcggaccc ccgcagcacc cgcctcacgc ggatccacct ccgtgaggac
660
ctggtgcagg accaggacct ggaggccatc cgcaagcagg acctggtgga gctgtacctg
720
actaactgcg agaagctgtc cgccaagagc ctgcagacac tgaggagctt cagccacacc
780
ctggtgtcct tgagcctctt cggctgtaca aacattttct atgaggagga gaacccaggg
840                            •
ggctgtgaag atgagtacct cgtcaacccc acctgccagg tgctggttaa ggatttcacc
900
ttcgagggct tcagccgcct ccgcttcctc aacttgggcc gcatgattga ttgggtccct
960
gtggagtccc tgctgcggcc gcttaactcc ctggctgcct tggacctctc aggcattcag
1020
acgagcgacg cagccttcct cacccagtgg aaagacagcc tggtgtccct cgtcctctac
1080
aacatggacc tgtccgacga ccacatccgg gtcatcgtgc agctgcacaa gctgcgacac
1140
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1200
ctgagcctct tgtgcagaa gctggggaac ctaatgtccc tggacatctc tggccacatg
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1380
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1440
aaaaacgaag agcaggtgct gaatgccatc gaggcctaca cggagcaccg gcctgagatc
1500
acctcgcggg ccatcaactt gcttttgac atcgcccgca tcgagcgttg caaccagctg
1560
ctgcgggccc tgaagctggt catcacggcc ctcaagtgcc acaaatatga caggaacatt
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1680
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1740
gaggtgacgg tgcagcggaa ctgctgcctg acgctctgca acttcagcat ccccgaggag
1800
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1860
caggacgagt ctatccagcg gatcgccgtg cacctgtgca atgccctggt ctgccaggta
1920
gacaacgacc acaaggaggc cgtgggcaag atgggctttg tcgtgaccat gctgaagctg
1980
```

4507

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attcagaaga agctgctgga caagacatgt gaccaggtca tggagttctc ctggagtgcc
2040
ctgtggaaca tcacagatga aactcctgac aactgcgaga tgttcctcaa tttcaacggc
2100
atgaagctct tcctggactg cctgaaggaa ttcccagaga agcaggaact gcataggaat
2160
atgctaggac ttttgggggaa tgtggcagaa gtgaaggagc tgaggcctca actaatgact
2220
tcccagttca tcagcgtctt cagcaacctg ttggagagca aggccgatgg gatcgaggtt
2280
tcctacaatg cctgcggcgt cctctcccac atcatgtttg atggacccga ggcctggggc
2340
gtctgtgagc cccagcgtga ggaggtggag gaacgcatgt gggctgccat ccagagctgg
2400
gacataaact ctcggagaaa catcaattac aggtcatttg aaccaattct ccgcctcctt
2460
ccccagggaa tctctcctgt cagccagcac tgggcaacct gggccctgta taacctcgtg
2520
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2580
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2640
attgagcact gcagtaactt taaagaggag aacatggaca cgtctagata gaggcctccg
2700
tccccatggc cgccaccgct ctggaccaca ggcggggagg aagcatgctc aagcagccca
2760
gcgggcgggc cccttccgag ggagcctccc acggagtgaa gagacatggg ggactttttgc
2820
acaaccgacg cttttcctta atgttagtga gatatatata tattatatat atatattttt
2880
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2940
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3000
cacacacact cctaccccaa ccagactaaa tgcctataac gctgtgagtg tccagtcctt
3060
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3120
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3180
agctgatggg gtttgggggat tagaacttac cccactgggt ctcccaaaag ccttggtgct
3240
cccggctgtg ggccatctgg ggcaggaaag tgagccattc ctaggctgag gtccaggcag
3300
ccctgcccct gaagaccctc taggagcagg gcacccagtg gccctgctgc tgtccagcca
3360
ggcctgcctg aggccacgct gctatggagg ctgcctccta gtctcccacc aggtcccagg
3420
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3480
tgccaaacac atccagaacc tgccctcagc cctggaagct agcatcttct ggggccaggg
3540
gcttgcttcc tcgctccata gccctcaact gcccaggcgc tcccaccagc agaactgagc
3600
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4508

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ctgcctcctc ctcccagcct gccccgctgc ccagaggacc ccacgcctct cagaggcaga
3660
ggtcccatgc cagcctttga cccacaacgg ccacacagcc gcctccagac cagcactcgg
3720
actgccctgc agtggccgct tgggcctccc tggcggtccc gccctgccct aggctttacc
3780
ttggaagcct gagaggcgcc ggctctcttg ctcctccatc gatggacact gcattgcttc
3840
tcatcggaca cttgtggagc gcagggggcct ggggagcagc gctaaccctg gaggcagcct
3900
ttgggtgatg gcttttttctt cccttttcct cccgcgggcc tgttttcagg tgttcctagc
3960
atttctgcct ccaggcagga cggcaggggt gagcagcttt gggagagaca cctggccttt
4020
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4080
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4140
accctggcag acttcacacc tcattgcttt accccctggg gcctggggaa atgtctgtac
4200
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4260
aaaaaaaaaa aaaaaaaaaa aa
4282
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<210> 5336
<211> 766
<212> PRT
<213> Homo sapiens

<400> 5336

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Met Ala Ser Asp Thr Pro Glu Ser Leu Met Ala Leu Cys Thr Asp Phe
1               5                   10                  15
Cys Leu Arg Asn Leu Asp Gly Thr Leu Gly Tyr Leu Leu Asp Lys Glu
            20                  25                  30
Thr Leu Arg Leu His Pro Asp Ile Phe Leu Pro Ser Glu Ile Cys Asp
        35                  40                  45
Arg Leu Val Asn Glu Tyr Val Glu Leu Val Asn Ala Ala Cys Asn Phe
    50                  55                  60
Glu Pro His Glu Ser Phe Phe Ser Leu Phe Ser Asp Pro Arg Ser Thr
65                  70                  75                  80
Arg Leu Thr Arg Ile His Leu Arg Glu Asp Leu Val Gln Asp Gln Asp
                85                  90                  95
Leu Glu Ala Ile Arg Lys Gln Asp Leu Val Glu Leu Tyr Leu Thr Asn
            100                 105                 110
Cys Glu Lys Leu Ser Ala Lys Ser Leu Gln Thr Leu Arg Ser Phe Ser
        115                 120                 125
His Thr Leu Val Ser Leu Ser Leu Phe Gly Cys Thr Asn Ile Phe Tyr
    130                 135                 140
Glu Glu Glu Asn Pro Gly Gly Cys Glu Asp Glu Tyr Leu Val Asn Pro
145                 150                 155                 160
Thr Cys Gln Val Leu Val Lys Asp Phe Thr Phe Glu Gly Phe Ser Arg
                165                 170                 175
Leu Arg Phe Leu Asn Leu Gly Arg Met Ile Asp Trp Val Pro Val Glu
```

```
                180                    185                    190
Ser Leu Leu Arg Pro Leu Asn Ser Leu Ala Ala Leu Asp Leu Ser Gly
           195                    200                    205
Ile Gln Thr Ser Asp Ala Ala Phe Leu Thr Gln Trp Lys Asp Ser Leu
           210                    215                    220
Val Ser Leu Val Leu Tyr Asn Met Asp Leu Ser Asp Asp His Ile Arg
225                    230                    235                    240
Val Ile Val Gln Leu His Lys Leu Arg His Leu Asp Ile Ser Arg Asp
                245                    250                    255
Arg Leu Ser Ser Tyr Tyr Lys Phe Lys Leu Thr Arg Glu Val Leu Ser
                260                    265                    270
Leu Phe Val Gln Lys Leu Gly Asn Leu Met Ser Leu Asp Ile Ser Gly
                275                    280                    285
His Met Ile Leu Glu Asn Cys Ser Ile Ser Lys Met Glu Glu Glu Ala
           290                    295                    300
Gly Gln Thr Ser Ile Glu Pro Ser Lys Ser Ser Ile Ile Pro Phe Arg
305                    310                    315                    320
Ala Leu Lys Arg Pro Leu Gln Phe Leu Gly Leu Phe Glu Asn Ser Leu
                325                    330                    335
Cys Arg Leu Thr His Ile Pro Ala Tyr Lys Val Ser Gly Asp Lys Asn
                340                    345                    350
Glu Glu Gln Val Leu Asn Ala Ile Glu Ala Tyr Thr Glu His Arg Pro
                355                    360                    365
Glu Ile Thr Ser Arg Ala Ile Asn Leu Leu Phe Asp Ile Ala Arg Ile
           370                    375                    380
Glu Arg Cys Asn Gln Leu Leu Arg Ala Leu Lys Leu Val Ile Thr Ala
385                    390                    395                    400
Leu Lys Cys His Lys Tyr Asp Arg Asn Ile Gln Val Thr Gly Ser Ala
                405                    410                    415
Ala Leu Phe Tyr Leu Thr Asn Ser Glu Tyr Arg Ser Glu Gln Ser Val
                420                    425                    430
Lys Leu Arg Arg Gln Val Ile Gln Val Val Leu Asn Gly Met Glu Ser
           435                    440                    445
Tyr Gln Glu Val Thr Val Gln Arg Asn Cys Cys Leu Thr Leu Cys Asn
           450                    455                    460
Phe Ser Ile Pro Glu Glu Leu Glu Phe Gln Tyr Arg Arg Val Asn Glu
465                    470                    475                    480
Leu Leu Leu Ser Ile Leu Asn Pro Thr Arg Gln Asp Glu Ser Ile Gln
                485                    490                    495
Arg Ile Ala Val His Leu Cys Asn Ala Leu Val Cys Gln Val Asp Asn
           500                    505                    510
Asp His Lys Glu Ala Val Gly Lys Met Gly Phe Val Val Thr Met Leu
           515                    520                    525
Lys Leu Ile Gln Lys Lys Leu Leu Asp Lys Thr Cys Asp Gln Val Met
           530                    535                    540
Glu Phe Ser Trp Ser Ala Leu Trp Asn Ile Thr Asp Glu Thr Pro Asp
545                    550                    555                    560
Asn Cys Glu Met Phe Leu Asn Phe Asn Gly Met Lys Leu Phe Leu Asp
                565                    570                    575
Cys Leu Lys Glu Phe Pro Glu Lys Gln Glu Leu His Arg Asn Met Leu
           580                    585                    590
Gly Leu Leu Gly Asn Val Ala Glu Val Lys Glu Leu Arg Pro Gln Leu
           595                    600                    605
Met Thr Ser Gln Phe Ile Ser Val Phe Ser Asn Leu Leu Glu Ser Lys
```

```
         610                  615                  620
Ala Asp Gly Ile Glu Val Ser Tyr Asn Ala Cys Gly Val Leu Ser His
625                  630                  635                  640
Ile Met Phe Asp Gly Pro Glu Ala Trp Gly Val Cys Glu Pro Gln Arg
                    645                  650                  655
Glu Glu Val Glu Glu Arg Met Trp Ala Ala Ile Gln Ser Trp Asp Ile
                    660                  665                  670
Asn Ser Arg Arg Asn Ile Asn Tyr Arg Ser Phe Glu Pro Ile Leu Arg
          675                  680                  685
Leu Leu Pro Gln Gly Ile Ser Pro Val Ser Gln His Trp Ala Thr Trp
          690                  695                  700
Ala Leu Tyr Asn Leu Val Ser Val Tyr Pro Asp Lys Tyr Cys Pro Leu
705                  710                  715                  720
Leu Ile Lys Glu Gly Gly Met Pro Leu Leu Arg Asp Ile Ile Lys Met
                    725                  730                  735
Ala Thr Ala Arg Gln Glu Thr Lys Glu Met Ala Arg Lys Val Ile Glu
               740                  745                  750
His Cys Ser Asn Phe Lys Glu Glu Asn Met Asp Thr Ser Arg
          755                  760                  765
```

```
<210> 5337
<211> 2742
<212> DNA
<213> Homo sapiens
```

```
<400> 5337
tttttatgga tatttagttt tatttgatac acttggatgc aactttactc attaccattt
60
ttaaacccat gtttaaaagt tttaaaattt gggtagaggc agaaggagaa ggtcgggttg
120
tagaagctgg ggtggccggc agctcgctca tcggtgttcg tgggctttgt cggtccgtgc
180
ctcgtctctc tctggaaagg gagggaggct tcgacgtcga gagggagccg ctgccgcgtt
240
agttccgagc ttgaagtcac taggacttct ctcaaacttg tgtgctgagg agactcagat
300
gttggcctca gctcctaggc tgaactcagc agatcggccc atgaaaactt ctgtattgag
360
acaaaggaag ggatctgtca gaaagcaaca cttgttatct tgggcttggc agcaaggaag
420
aggacaggta gtggagatcc tgcaatctga aaagcagact gaaaggtgac aaagaagctg
480
aagatgggtg gtggagagag gtataacatt ccagcccctc aatctagaaa tgttagtaag
540
aaccaacaac agcttaacag acagaagacc aaggaacaga attcccagat gaagattgtt
600
cataagaaaa aagaaagagg acatggttat aactcatcag cagctgcctg gcaggccatg
660
caaaatgggg ggaagaacaa aaattttcca ataatcaaa gttggaattc tagcttatca
720
ggtcccaggt tacttttaa atctcaagct aatcagaact atgctggtgc caaatttagt
780
gagccgccat caccaagtgt tcttcccaaa ccaccaagcc actgggtccc tgtttccttt
840
```

```
aatccttcag ataaggaaat aatgacattt caacttaaaa ccttacttaa agtacaggta
900
taaaataaga caaatgttta aatttagtta tgttcacgga tagttgtcaa ttggtctgaa
960
acaaattcgc tagggaatct atttgtgtag aactaattaa tgtaaaaaaa acagaccatc
1020
tcgtgttgtg tgcactgtga tataatggta gtatcagtgc aacttaaact aatgattgta
1080
cttgatatta agtgttctca actgagtaac ttttaagtgg aaaccaagtt tagatttggg
1140
gagtggtaaa ggaatcagct ttttctattg ttaggggaag acagtaattt atcattcatg
1200
gaccagtaga ttgttgaaag ttggtgaatc ggattataag cttctagcta acacaaggat
1260
tcagaattag gtaaacatct gaaggtttag tatattagaa acacccaaac cagtaatatg
1320
ctaacctgat gcactgctga aagaaaatgt gaatttttcg taataattgc attttagtga
1380
attgtacagt gggtggaaag ggcatttgga gctcattaga atgagacata gtacacccca
1440
atggccctgt ttattaaatg tagtggatta agtgtctgtc aacaaataca ccaaaaccat
1500
ttttttataga aacagtattt aatggtcact caatagcttt caaaatacat ttttgtatta
1560
cagcactgca caagctattc taatagtgct ctggcctcat cattcctgca aagcttgctt
1620
tggggagttg gataatgtga aaattttaag tacctagggg agaaagagcc atgtaaatat
1680
ctgtaataaa cttgtagcat atgtaaagtt ttcttggcct ttatcttaca aaaatggagt
1740
attttagtat gaatttgctg aatgtaagac cgtggactgt tttttataat atggcctaat
1800
tttaaaggtc caaaataact tgtttttaaa gtttgccctt gtgctaaagt gccagtgtat
1860
gtatgttata cttgatttgg ttgtaaacta tatttcaaag taaaccctag tgtaataagt
1920
tttataacta aaaaggttgc ttcacattca tatcatgtac attaagtact acataaactt
1980
gtctttaggc tatcaatatt taacttgggc agtacttcat cttgatttat ttggagaaat
2040
acagcttagg catctgctta cctgcttagg catcaagagg tgccaaatta gaaaataggg
2100
cattaacaat caaaattttt aagctgaccc acatacttgc tactggtttc gcttatgttt
2160
aagcatttaa agttggcaaa acatgttatc aatgtattat gcaagagttt acatcttttg
2220
cataagtggt ccattgggtt gcacctaccc cttgaccaaa caaaaacaaa acatcactgg
2280
caccatactc gaaactacct gtatcctagg ttataagatt gtgaaagcca acaatctata
2340
aggttggagg gactctagtt aatctttggg cttagaggag gaaaaaaga tagtcccata
2400
ctgcatttca catctcttaa aaatagtttt agcagcttaa accttttttag ttataaaact
2460
```

4512

```
tattacacta gggtttactt tgaaatatag tttacaacca aatcaagtat aacatacata
2520
cactggcact ttagcacaag ggcaaacttt aaaaacaagt tattttggac cttttaaaatt
2580
aggccatatt ataaaaaaca gtccacggtc ttacattcag caaattcata ctaaaatact
2640
ccatttttgt aagataaagg ccaagaaaac tttacatatg ctacaagttt attacagata
2700
tttacatggc tctttctccc ctaaggactt aaaattttca ca
2742
```

```
<210> 5338
<211> 139
<212> PRT
<213> Homo sapiens
```

```
<400> 5338
Met Gly Gly Gly Glu Arg Tyr Asn Ile Pro Ala Pro Gln Ser Arg Asn
 1               5                   10                  15
Val Ser Lys Asn Gln Gln Gln Leu Asn Arg Gln Lys Thr Lys Glu Gln
            20                  25                  30
Asn Ser Gln Met Lys Ile Val His Lys Lys Lys Glu Arg Gly His Gly
            35                  40                  45
Tyr Asn Ser Ser Ala Ala Ala Trp Gln Ala Met Gln Asn Gly Gly Lys
         50                  55                  60
Asn Lys Asn Phe Pro Asn Asn Gln Ser Trp Asn Ser Ser Leu Ser Gly
65                  70                  75                  80
Pro Arg Leu Leu Phe Lys Ser Gln Ala Asn Gln Asn Tyr Ala Gly Ala
                85                  90                  95
Lys Phe Ser Glu Pro Pro Ser Pro Ser Val Leu Pro Lys Pro Pro Ser
            100                 105                 110
His Trp Val Pro Val Ser Phe Asn Pro Ser Asp Lys Glu Ile Met Thr
            115                 120                 125
Phe Gln Leu Lys Thr Leu Leu Lys Val Gln Val
         130                 135
```

```
<210> 5339
<211> 847
<212> DNA
<213> Homo sapiens
```

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<400> 5339
nngacacttt gagttactta taatagtgta tactataaga tataaagcag tcataattac
60
ctaagcttca aaaatctttt gtttccatgt ccagagacaa gtacagtaca gtattcttat
120
ttgtttgctc cccctttta aaatatttaa tagcttatgt tcacttctca tagctccttt
180
ctttatgaaa aataacatga aaatagaaaa gttgttctaa gtatactttt tgtatatatt
240
ctagacttat cagatgtaga cttcctagat gattcttcaa cggagagttt gcttctgagt
300
ggggatgaat acaatcagga ctttgattca accaattttg aggaatctca ggatgaggat
360
```

```
gatgctctta atgaaattgt gcgatgtatt tgtgagatgg atgaggagaa tggcttcatg
420
atccagtgtg aagagtgctt gtgttggcaa cacagcgtgt gcatggggct gctggaggag
480
agcattccag agcagtacat ctgctatatc tgccgggacc caccaggtca gaggtggagt
540
gcaaaatatc gttatgataa ggagtggttg aataatggga gaatgtgcgg gttatcattt
600
ttcaaagaaa attattctca tctcaatgcc aaaaagatag tttctacaca tcacctgctt
660
gctgatgtct atggtgttac agaagtgcta cacgggctac agctgaagat tggaatacta
720
aagaataaac atcatcctga ccttcatctc tgggcttgtt ccgggaagcg aaaagaccaa
780
gatcaaataa tagctggggt ggagaaaaaa atagctcaag acacagttaa tcgagaagaa
840
aaaaaaa
847
```

<210> 5340
<211> 217
<212> PRT
<213> Homo sapiens

<400> 5340

```
His Glu Asn Arg Lys Val Val Leu Ser Ile Leu Phe Val Tyr Ile Leu
 1               5                  10                  15
Asp Leu Ser Asp Val Asp Phe Leu Asp Asp Ser Ser Thr Glu Ser Leu
            20                  25                  30
Leu Leu Ser Gly Asp Glu Tyr Asn Gln Asp Phe Asp Ser Thr Asn Phe
        35                  40                  45
Glu Glu Ser Gln Asp Glu Asp Asp Ala Leu Asn Glu Ile Val Arg Cys
    50                  55                  60
Ile Cys Glu Met Asp Glu Glu Asn Gly Phe Met Ile Gln Cys Glu Glu
65                  70                  75                  80
Cys Leu Cys Trp Gln His Ser Val Cys Met Gly Leu Leu Glu Glu Ser
                85                  90                  95
Ile Pro Glu Gln Tyr Ile Cys Tyr Ile Cys Arg Asp Pro Pro Gly Gln
            100                 105                 110
Arg Trp Ser Ala Lys Tyr Arg Tyr Asp Lys Glu Trp Leu Asn Asn Gly
        115                 120                 125
Arg Met Cys Gly Leu Ser Phe Phe Lys Glu Asn Tyr Ser His Leu Asn
    130                 135                 140
Ala Lys Lys Ile Val Ser Thr His His Leu Leu Ala Asp Val Tyr Gly
145                 150                 155                 160
Val Thr Glu Val Leu His Gly Leu Gln Leu Lys Ile Gly Ile Leu Lys
                165                 170                 175
Asn Lys His His Pro Asp Leu His Leu Trp Ala Cys Ser Gly Lys Arg
            180                 185                 190
Lys Asp Gln Asp Gln Ile Ile Ala Gly Val Glu Lys Lys Ile Ala Gln
        195                 200                 205
Asp Thr Val Asn Arg Glu Glu Lys Lys
        210                 215
```

4514

<210> 5341
<211> 2455
<212> DNA
<213> Homo sapiens

<400> 5341
nnatgagctg caggtacggt ccggaatccc gggtcgaccc acgcgtccgg ctcctaggga
60
ggagctggta ccatgggtgt caggcaacag ttggccttgc tgctgctgct gctgctcctg
120
ctctggggcc tggggcagcc agtgtggcca gtcgctgtgg ccttgaccct gcgctggctc
180
ctgggggatc ccacatgttg cgtgctactt gggctggcca tgttagcacg gccctggctc
240
ggccctggg tgccccatgg gctgagcctg gcagctgcgg ccctggcact aaccctcctg
300
ccagcacggc tgcccccagg actacgctgg ctgccggctg atgtgatctt cttggccaag
360
atcctccacc tgggcctgaa gatcagggga tgcttgagcc ggcagccgcc tgacaccttt
420
gtagatgcct tcgagcggcg agcacgagcg cagcctggca gggcactctt ggtgtggacg
480
gggcctgggg ccggctcagt cacctttggt gagctggatg cccgggcctg ccaggcggca
540
tgggccctga aggctgagct gggtgaccct gcgagcctgt gtgccgggga gcctactgcc
600
ctccttgtgc tggcttccca ggccgttcca gccctgtgta tgtggctggg gctggccaag
660
ctgggctgcc aacagcctg gatcaacccg catggccggg ggatgcccct ggcgcactct
720
gtgctgagct ctggggcccg ggtgctggtg gtggacccag acctccggga gagcctggag
780
gagatccttc ccaagctgca ggctgagaac atccgctgct tctacctcag ccatacctcc
840
cctacaccag gggtgggggc tctggggct gccctggatg cagcgccctc ccacccagtg
900
cctgctgacc tgcgtgctgg gatcacatgg agaagccctg ccctcttcat ctatacctcg
960
gggaccactg gcctcccgaa gccagccatc ctcacgcatg agcgggtact gcagatgagc
1020
aagatgctgt ccttatctgg ggccacagct gatgatgtgg tttacacggt cctgcctctg
1080
taccacgtga tgggacttgt cgttgggatc ctcggctgct tagatctcgg agccacctgt
1140
gttctggccc ccaagttctc tacttcctgc ttctgggatg actgtcggca gcatggcgtg
1200
acagtgatcc tgtatgtggg cgagctcctg cggtacttgt gtaacattcc ccagcaacca
1260
gaggaccgga cacatacagt ccgcctggca atgggcaatg gactacgggc tgatgtgtgg
1320
gagaccttcc agcagcgctt cggtcctatt cggatctggg aagtctacgg ctccacagaa
1380
ggcaacatgg gcttagtcaa ctatgtgggg cgctgcgggg ccctgggcaa gatgagctgc
1440

ctcctccgaa tgctgtcccc ctttgagctg gtgcagttcg acatggaggc ggcggagcct
1500
gtgagggaca atcagggctt ctgcatccct gtagggctag gggagccggg gctgctgctg
1560
accaaggtgg taagccagca acccttcgtg ggctaccgcg gcccccgaga gctgtcggaa
1620
cggaagctgg tgcgcaacgt gcggcaatcg ggcgacgttt actacaacac cggggacgta
1680
ctggccatgg accgcgaagg cttcctctac ttccgcgacc gcctcgggga caccttccga
1740
tggaagggcg agaacgtgtc cacgcacgag gtggagggcg tgttgtcgca ggtggacttc
1800
ttgcaacagg ttaacgtgta tggcgtgtgc gtgccaggtt gtgagggtaa ggtgggcatg
1860
gctgctgtgc agctagcccc cggccagact ttcgacgggg agaagttgta ccagcacgtt
1920
cgcgcttggc tccctgccta cgctaccccc catttcatcc gcatccagga cgccatggag
1980
gtcaccagca cgttcaaact gatgaagacc cggttggtgc gtgagggctt caatgtgggg
2040
atcgtggttg accctctgtt tgtactggac aaccgggccc agtccttccg gcccctgacg
2100
gcagaaatgt accaggctgt gtgtgaggga acctggaagc tctgatcacc tggccaaccc
2160
actggggtag gggtagggat caaagccagc caccccacc ccaacacact cggtgtccct
2220
ttcatcctgg gcctgtgtga atcccagcct ggccataccc tcaacctcag tgggctggaa
2280
atgacagtgg gccctgtagc agtggcagaa taaactcaga tgtgttcaca aaaaaaaaca
2340
cgcacgaggt ggagggcgtg ttgtcgcagg tggacttctt gcaacaggtt aacgtgtatg
2400
gcgtgtgcgt gccaggttgt gagggtaagg tgggcatggc tgctgtgcag ctagc
2455

<210> 5342
<211> 690
<212> PRT
<213> Homo sapiens

<400> 5342
Met Gly Val Arg Gln Gln Leu Ala Leu Leu Leu Leu Leu Leu Leu
 1   5   10   15
Leu Trp Gly Leu Gly Gln Pro Val Trp Pro Val Ala Val Ala Leu Thr
            20   25   30
Leu Arg Trp Leu Leu Gly Asp Pro Thr Cys Cys Val Leu Leu Gly Leu
        35   40   45
Ala Met Leu Ala Arg Pro Trp Leu Gly Pro Trp Val Pro His Gly Leu
    50   55   60
Ser Leu Ala Ala Ala Ala Leu Ala Leu Thr Leu Leu Pro Ala Arg Leu
65   70   75   80
Pro Pro Gly Leu Arg Trp Leu Pro Ala Asp Val Ile Phe Leu Ala Lys
                85   90   95
Ile Leu His Leu Gly Leu Lys Ile Arg Gly Cys Leu Ser Arg Gln Pro

4516

```
                   100                    105                    110
   Pro Asp Thr Phe Val Asp Ala Phe Glu Arg Arg Ala Arg Ala Gln Pro
           115                    120                    125
   Gly Arg Ala Leu Leu Val Trp Thr Gly Pro Gly Ala Gly Ser Val Thr
       130                    135                    140
   Phe Gly Glu Leu Asp Ala Arg Ala Cys Gln Ala Ala Trp Ala Leu Lys
   145                    150                    155                    160
   Ala Glu Leu Gly Asp Pro Ala Ser Leu Cys Ala Gly Glu Pro Thr Ala
                   165                    170                    175
   Leu Leu Val Leu Ala Ser Gln Ala Val Pro Ala Leu Cys Met Trp Leu
                   180                    185                    190
   Gly Leu Ala Lys Leu Gly Cys Pro Thr Ala Trp Ile Asn Pro His Gly
               195                    200                    205
   Arg Gly Met Pro Leu Ala His Ser Val Leu Ser Ser Gly Ala Arg Val
           210                    215                    220
   Leu Val Val Asp Pro Asp Leu Arg Glu Ser Leu Glu Glu Ile Leu Pro
   225                    230                    235                    240
   Lys Leu Gln Ala Glu Asn Ile Arg Cys Phe Tyr Leu Ser His Thr Ser
                   245                    250                    255
   Pro Thr Pro Gly Val Gly Ala Leu Gly Ala Ala Leu Asp Ala Ala Pro
                   260                    265                    270
   Ser His Pro Val Pro Ala Asp Leu Arg Ala Gly Ile Thr Trp Arg Ser
           275                    280                    285
   Pro Ala Leu Phe Ile Tyr Thr Ser Gly Thr Thr Gly Leu Pro Lys Pro
       290                    295                    300
   Ala Ile Leu Thr His Glu Arg Val Leu Gln Met Ser Lys Met Leu Ser
   305                    310                    315                    320
   Leu Ser Gly Ala Thr Ala Asp Asp Val Val Tyr Thr Val Leu Pro Leu
                   325                    330                    335
   Tyr His Val Met Gly Leu Val Val Gly Ile Leu Gly Cys Leu Asp Leu
                   340                    345                    350
   Gly Ala Thr Cys Val Leu Ala Pro Lys Phe Ser Thr Ser Cys Phe Trp
           355                    360                    365
   Asp Asp Cys Arg Gln His Gly Val Thr Val Ile Leu Tyr Val Gly Glu
       370                    375                    380
   Leu Leu Arg Tyr Leu Cys Asn Ile Pro Gln Gln Pro Glu Asp Arg Thr
   385                    390                    395                    400
   His Thr Val Arg Leu Ala Met Gly Asn Gly Leu Arg Ala Asp Val Trp
                   405                    410                    415
   Glu Thr Phe Gln Gln Arg Phe Gly Pro Ile Arg Ile Trp Glu Val Tyr
                   420                    425                    430
   Gly Ser Thr Glu Gly Asn Met Gly Leu Val Asn Tyr Val Gly Arg Cys
               435                    440                    445
   Gly Ala Leu Gly Lys Met Ser Cys Leu Leu Arg Met Leu Ser Pro Phe
           450                    455                    460
   Glu Leu Val Gln Phe Asp Met Glu Ala Ala Glu Pro Val Arg Asp Asn
   465                    470                    475                    480
   Gln Gly Phe Cys Ile Pro Val Gly Leu Gly Glu Pro Gly Leu Leu Leu
                   485                    490                    495
   Thr Lys Val Val Ser Gln Gln Pro Phe Val Gly Tyr Arg Gly Pro Arg
                   500                    505                    510
   Glu Leu Ser Glu Arg Lys Leu Val Arg Asn Val Arg Gln Ser Gly Asp
           515                    520                    525
   Val Tyr Tyr Asn Thr Gly Asp Val Leu Ala Met Asp Arg Glu Gly Phe
```

4517

```
        530                   535                   540
Leu Tyr Phe Arg Asp Arg Leu Gly Asp Thr Phe Arg Trp Lys Gly Glu
545                   550                   555                   560
Asn Val Ser Thr His Glu Val Glu Gly Val Leu Ser Gln Val Asp Phe
                  565                   570                   575
Leu Gln Gln Val Asn Val Tyr Gly Val Cys Val Pro Gly Cys Glu Gly
              580                   585                   590
Lys Val Gly Met Ala Ala Val Gln Leu Ala Pro Gly Gln Thr Phe Asp
          595                   600                   605
Gly Glu Lys Leu Tyr Gln His Val Arg Ala Trp Leu Pro Ala Tyr Ala
      610                   615                   620
Thr Pro His Phe Ile Arg Ile Gln Asp Ala Met Glu Val Thr Ser Thr
625                   630                   635                   640
Phe Lys Leu Met Lys Thr Arg Leu Val Arg Glu Gly Phe Asn Val Gly
                  645                   650                   655
Ile Val Val Asp Pro Leu Phe Val Leu Asp Asn Arg Ala Gln Ser Phe
              660                   665                   670
Arg Pro Leu Thr Ala Glu Met Tyr Gln Ala Val Cys Glu Gly Thr Trp
          675                   680                   685
Lys Leu
    690


<210> 5343
<211> 752
<212> DNA
<213> Homo sapiens

<400> 5343
tctagaagcc tgcggcaagg tcgcctctac cggcagccca agttcctgcg gacgatggac
60
gtgttcgaca tggaacaggg gggatggctg aagatggaac gatcgttctt cctcaagaag
120
cggcgggcag attttgtggc tggctctctg agtggacggg tcatagtggc tgggggactt
180
gggaatcaac ccactgtcct ggagacggcg gaagcattcc acccagggaa gaacaaatgg
240
gagatcctcc ctgccatgcc cacacccgc tgtgcctgct ccagcatagt cgtcaagaac
300
tgcctcctcg ctgtgggagg tgtcaaccag ggtctgagtg acgcagtgga ggccctgtgt
360
gtctctgact cctagctgtc tctgggctca gtacctttgc cctggaccat atcacttcac
420
tcttaacatg aggaatgatc ttgtccaagc agtcggggct acttccaaga atgtcagctc
480
ctgttagcaa ccagtggagt ctggccttgg ggctctaagt tgacctctct atagctccaa
540
atcctaccaa tctcagaaaa ctgtaagagg cacagatgac tccaccagct gcagagctga
600
ctctgaagag agtcttcact tactgcacag gcaaagaaag gcacaggaat atttcctacc
660
tctccctcct gtgagtccca cctccccca ccccatctc caggaggcag gtagagcagt
720
tctgaccgag aggatagact gctgttgctg tc
752
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4518

<210> 5344
<211> 124
<212> PRT
<213> Homo sapiens

<400> 5344
Ser Arg Ser Leu Arg Gln Gly Arg Leu Tyr Arg Gln Pro Lys Phe Leu
 1   5   10   15
Arg Thr Met Asp Val Phe Asp Met Glu Gln Gly Gly Trp Leu Lys Met
            20   25   30
Glu Arg Ser Phe Phe Leu Lys Lys Arg Arg Ala Asp Phe Val Ala Gly
         35   40   45
Ser Leu Ser Gly Arg Val Ile Val Ala Gly Gly Leu Gly Asn Gln Pro
     50   55   60
Thr Val Leu Glu Thr Ala Glu Ala Phe His Pro Gly Lys Asn Lys Trp
65   70   75   80
Glu Ile Leu Pro Ala Met Pro Thr Pro Arg Cys Ala Cys Ser Ser Ile
                85   90   95
Val Val Lys Asn Cys Leu Leu Ala Val Gly Gly Val Asn Gln Gly Leu
            100   105   110
Ser Asp Ala Val Glu Ala Leu Cys Val Ser Asp Ser
         115   120

<210> 5345
<211> 1912
<212> DNA
<213> Homo sapiens

<400> 5345
nnctagaatt cagcggccgc tgaattctag gcggcgcggc ggcgacggag caccggcggc
60
ggcagggcga gagcattaaa tgaaagcaaa agagttaata atggcaacac ggctccagaa
120
gactcttccc ctgccaagaa aactcgtaga tgccagagac aggagtcgaa aaagatgcct
180
gtggctggag gaaaagctaa taggacagg acagaagaca agcaagatgg tatgccagga
240
aggtcatggg ccagcaaaag ggtctctgaa tctgtgaagg ccttgctgtt aaagggcaaa
300
gctcctgtgg acccagagtg tacagccaag gtggggaagg ctcatgtgta ttgtgaagga
360
aatgatgtct atgatgtcat gctaaatcag accaatctcc agttcaacaa caacaagtac
420
tatctgattc agctattaga agatgatgcc cagaggaact tcagtgtttg gatgagatgg
480
ggccgagttg ggaaaatggg acagcacagc ctggtggctt gttcaggcaa tctcaacaag
540
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gaaagtttg agaaggtgcc tggaaaatat gatatgctac agatggacta tgccaccaat
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720

                               4519

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960
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1020
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1140
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1200
cccacacaca gcgactatac catgaccttg ctggatttgt ttgaagtgga gaaggatggt
1260
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1320
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1380
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1440
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1560
aaacatagca ccaaggggct gggcaagatg gctcccagtt ctgcccactt cgtcaccctg
1620
aatgggagta cagtgccatt aggaccagca agtgacacag gaattctgaa tccagatggt
1680
tataccctca actacaatga atatattgta tataacccca accaggtccg tatgcggtac
1740
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1800
gagatctgat cttcaagcaa gaaaataagc agtgttgtac ttgtgaattt tgtgatattt
1860
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1912
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<210> 5346
<211> 534
<212> PRT
<213> Homo sapiens
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<400> 5346
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1               5                   10                  15
Gln Asp Gly Met Pro Gly Arg Ser Trp Ala Ser Lys Arg Val Ser Glu
            20                  25                  30
Ser Val Lys Ala Leu Leu Leu Lys Gly Lys Ala Pro Val Asp Pro Glu
        35                  40                  45
Cys Thr Ala Lys Val Gly Lys Ala His Val Tyr Cys Glu Gly Asn Asp
```

```
          50                      55                      60
Val Tyr Asp Val Met Leu Asn Gln Thr Asn Leu Gln Phe Asn Asn Asn
65                      70                      75                      80
Lys Tyr Tyr Leu Ile Gln Leu Leu Glu Asp Asp Ala Gln Arg Asn Phe
                    85                      90                      95
Ser Val Trp Met Arg Trp Gly Arg Val Gly Lys Met Gly Gln His Ser
                    100                     105                     110
Leu Val Ala Cys Ser Gly Asn Leu Asn Lys Ala Lys Glu Ile Phe Gln
                    115                     120                     125
Lys Lys Phe Leu Asp Lys Thr Lys Asn Asn Trp Glu Asp Arg Glu Lys
                    130                     135                     140
Phe Glu Lys Val Pro Gly Lys Tyr Asp Met Leu Gln Met Asp Tyr Ala
145                     150                     155                     160
Thr Asn Thr Gln Asp Glu Glu Glu Thr Lys Lys Glu Glu Ser Leu Lys
                    165                     170                     175
Ser Pro Leu Lys Pro Glu Ser Gln Leu Asp Leu Arg Val Gln Glu Leu
                    180                     185                     190
Ile Lys Leu Ile Cys Asn Val Gln Ala Met Glu Glu Met Met Met Glu
                    195                     200                     205
Met Lys Tyr Asn Thr Lys Lys Ala Pro Leu Gly Lys Leu Thr Val Ala
                    210                     215                     220
Gln Ile Lys Ala Gly Tyr Gln Ser Leu Lys Lys Ile Glu Asp Cys Ile
225                     230                     235                     240
Arg Ala Gly Gln His Gly Arg Ala Leu Met Glu Ala Cys Asn Glu Phe
                    245                     250                     255
Tyr Thr Arg Ile Pro His Asp Phe Gly Leu Arg Thr Pro Pro Leu Ile
                    260                     265                     270
Arg Thr Gln Lys Glu Leu Ser Glu Lys Ile Gln Leu Leu Glu Ala Leu
                    275                     280                     285
Gly Asp Ile Glu Ile Ala Ile Lys Leu Val Lys Thr Glu Leu Gln Ser
                    290                     295                     300
Pro Glu His Pro Leu Asp Gln His Tyr Arg Asn Leu His Cys Ala Leu
305                     310                     315                     320
Arg Pro Leu Asp His Glu Ser Tyr Glu Phe Lys Val Ile Ser Gln Tyr
                    325                     330                     335
Leu Gln Ser Thr His Ala Pro Thr His Ser Asp Tyr Thr Met Thr Leu
                    340                     345                     350
Leu Asp Leu Phe Glu Val Glu Lys Asp Gly Glu Lys Glu Ala Phe Arg
                    355                     360                     365
Glu Asp Leu His Asn Arg Met Leu Leu Trp His Gly Ser Arg Met Ser
370                     375                     380
Asn Trp Val Gly Ile Leu Ser His Gly Leu Arg Ile Ala Pro Pro Glu
385                     390                     395                     400
Ala Pro Ile Thr Gly Tyr Met Phe Gly Lys Gly Ile Tyr Phe Ala Asp
                    405                     410                     415
Met Ser Ser Lys Ser Ala Asn Tyr Cys Phe Ala Ser Arg Leu Lys Asn
                    420                     425                     430
Thr Gly Leu Leu Leu Leu Ser Glu Val Ala Leu Gly Gln Cys Asn Glu
                    435                     440                     445
Leu Leu Glu Ala Asn Pro Lys Ala Glu Gly Leu Leu Gln Gly Lys His
450                     455                     460
Ser Thr Lys Gly Leu Gly Lys Met Ala Pro Ser Ser Ala His Phe Val
465                     470                     475                     480
Thr Leu Asn Gly Ser Thr Val Pro Leu Gly Pro Ala Ser Asp Thr Gly
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4521

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            485                490                495
Ile Leu Asn Pro Asp Gly Tyr Thr Leu Asn Tyr Asn Glu Tyr Ile Val
            500                505                510
Tyr Asn Pro Asn Gln Val Arg Met Arg Tyr Leu Leu Lys Val Gln Phe
        515                520                525
Asn Phe Leu Gln Leu Trp      .
    530


<210> 5347<211> 2893
<212> DNA
<213> Homo sapiens


<400> 5347
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120
acgcctttgt gcccggtgct gggaacccgc gacggccgcc acgcgccccg gtccattgtt
180
tcgcttatct gggttccagg caggtgcggg cggcgcgcgg ggtccgcacg tgtcaccccg
240
gcggctgggg cgccgggacc cgcgggcgcc ggcaggggcg ttcccgggcg cgcggcggcg
300
atgaagcacc tgaagcggtg gtggtcggcc ggcggcggcc tcctgcacct caccctcctg
360
ctgagcttgg cggggctccg cgtagaccta gatctttacc tgctgctgcc gccgcccacc
420
ctgctgcagg acgagctgct gttcctgggc ggcccggcca gctccgccta cgcgctcagc
480
cccttctcgg cctcgggagg gtggggggcgc gcgggccact tgcaccccaa gggccgggag
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600
cccttcgtcc ctcgcaccag cgtggatgca tggctggtgc acagcgtggc tgccgggagc
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gcggacgagg cccacgggct gctcggcgcc gccgccgcct cgtccaccgg aggagccggc
720
gccagcgtgg acggcggcag ccaggctgtg caggggggct gcggggactc ccgagcggct
780
cggagtggcc ccttggacgc cggggaagag gagaaggcac ccgcggaacc gacggctcag
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900
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960
aactcacttc agcagaatga tgatgatgaa aacaaaatag cagagaaacc tgactgggag
1020
gcagaaaaga ccactgaatc tagaaatgag agacatctga atgggacaga tacttctttc
1080
tctctggaag acttattcca gttgctttca tcacagcctg aaaattcact ggagggcatc
1140
tcattgggag atattcctct tccaggcagt atcagtgatg gcatgaattc ttcagcacat
1200
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tatcatgtaa acttcagcca ggctataagt caggatgtga atcttcatga ggccatcttg
1260
ctttgtccca acaatacatt tagaagagat ccaacagcaa ggacttcaca gtcacaagaa
1320
ccatttctgc agttaaattc tcataccacc aatcctgagc aaacccttcc tggaactaat
1380
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1440
ctgtatgacc ttgacataaa tatatttgat gagataaact taatgtcatt ggccacagaa
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1560
ctttctttag attcaagtca caataatacc tctgtcatca gtctaattc ctctcactct
1620
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1680
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1740
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1800
cacttacagc caactgcacc agaatctact tctgaacctt ttccgtggcc tgggaagtca
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cagaagataa ggagtagata ccttgaagac acagatagaa acttgagccg tgatgaacag
1920
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1980
tctttcaata gcatgttaag tagatattat ctgacagacc tacaagtctc acttatccgt
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gacatcagac gaagagggaa aaataaagtt gctgcgcaga actgtcgtaa acgcaaattg
2100
gacataattt tgaatttaga agatgatgta tgtaacttgc aagcaaagaa ggaaactctt
2160
aagagagagc aagcacaatg taacaaagct attaacataa tgaaacagaa actgcatgac
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2460
aaactgcttc aagaattgta tctttaagta ctgctacttg aataactcag ttaacgctgt
2520
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2580
ggagccacaa cttttcatga agtgcattgt atacaaaatt catagttatg tccaaagaat
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2700
gttggttact tcaaaaagag caaacactgg ggatcaaatt attttaagag gtatttcagt
2760
tttaaatgca aaatagcctt attttcattt agtttgttag cactatagtg agcttttcaa
2820

4523

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acactatttt aatctttata tttaacttat aaattttgct ttctatggaa ataaattttg
2880
tatttgtatt aaa
2893
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<210> 5348
<211> 694
<212> PRT
<213> Homo sapiens

<400> 5348

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Met Lys His Leu Lys Arg Trp Trp Ser Ala Gly Gly Gly Leu Leu His
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Leu Thr Leu Leu Leu Ser Leu Ala Gly Leu Arg Val Asp Leu Asp Leu
            20                  25                  30
Tyr Leu Leu Leu Pro Pro Pro Thr Leu Leu Gln Asp Glu Leu Leu Phe
            35                  40                  45
Leu Gly Gly Pro Ala Ser Ser Ala Tyr Ala Leu Ser Pro Phe Ser Ala
        50                  55                  60
Ser Gly Gly Trp Gly Arg Ala Gly His Leu His Pro Lys Gly Arg Glu
65                  70                  75                  80
Leu Asp Pro Ala Ala Pro Pro Glu Gly Gln Leu Leu Arg Glu Val Arg
                85                  90                  95
Ala Leu Gly Val Pro Phe Val Pro Arg Thr Ser Val Asp Ala Trp Leu
            100                 105                 110
Val His Ser Val Ala Ala Gly Ser Ala Asp Glu Ala His Gly Leu Leu
        115                 120                 125
Gly Ala Ala Ala Ala Ser Ser Thr Gly Gly Ala Gly Ala Ser Val Asp
    130                 135                 140
Gly Gly Ser Gln Ala Val Gln Gly Gly Cys Gly Asp Ser Arg Ala Ala
145                 150                 155                 160
Arg Ser Gly Pro Leu Asp Ala Gly Glu Glu Glu Lys Ala Pro Ala Glu
                165                 170                 175
Pro Thr Ala Gln Val Pro Asp Ala Gly Gly Cys Ala Ser Glu Glu Asn
            180                 185                 190
Gly Val Leu Arg Glu Lys His Glu Ala Val Asp His Ser Ser Gln His
        195                 200                 205
Glu Glu Asn Glu Glu Arg Val Ser Ala Gln Lys Glu Asn Ser Leu Gln
    210                 215                 220
Gln Asn Asp Asp Asp Glu Asn Lys Ile Ala Glu Lys Pro Asp Trp Glu
225                 230                 235                 240
Ala Glu Lys Thr Thr Glu Ser Arg Asn Glu Arg His Leu Asn Gly Thr
                245                 250                 255
Asp Thr Ser Phe Ser Leu Glu Asp Leu Phe Gln Leu Leu Ser Ser Gln
                260                 265                 270
Pro Glu Asn Ser Leu Glu Gly Ile Ser Leu Gly Asp Ile Pro Leu Pro
            275                 280                 285
Gly Ser Ile Ser Asp Gly Met Asn Ser Ser Ala His Tyr His Val Asn
        290                 295                 300
Phe Ser Gln Ala Ile Ser Gln Asp Val Asn Leu His Glu Ala Ile Leu
305                 310                 315                 320
Leu Cys Pro Asn Asn Thr Phe Arg Arg Asp Pro Thr Ala Arg Thr Ser
                325                 330                 335
Gln Ser Gln Glu Pro Phe Leu Gln Leu Asn Ser His Thr Thr Asn Pro
```

```
                   340                    345                    350
     Glu Gln Thr Leu Pro Gly Thr Asn Leu Thr Gly Phe Leu Ser Pro Val
              355                    360                    365
     Asp Asn His Met Arg Asn Leu Thr Ser Gln Asp Leu Leu Tyr Asp Leu
          370                    375                    380
     Asp Ile Asn Ile Phe Asp Glu Ile Asn Leu Met Ser Leu Ala Thr Glu
     385                    390                    395                    400
     Asp Asn Phe Asp Pro Ile Asp Val Ser Gln Leu Phe Asp Glu Ser Asp
                   405                    410                    415
     Ser Asp Ser Gly Leu Ser Leu Asp Ser Ser His Asn Asn Thr Ser Val
                   420                    425                    430
     Ile Lys Ser Asn Ser Ser His Ser Val Cys Asp Glu Gly Ala Ile Gly
              435                    440                    445
     Tyr Cys Thr Asp His Glu Ser Ser Ser His His Asp Leu Glu Gly Ala
          450                    455                    460
     Val Gly Gly Tyr Tyr Pro Glu Pro Ser Lys Leu Cys His Leu Asp Gln
     465                    470                    475                    480
     Ser Asp Ser Asp Phe His Gly Asp Leu Thr Phe Gln His Val Phe His
                   485                    490                    495
     Asn His Thr Tyr His Leu Gln Pro Thr Ala Pro Glu Ser Thr Ser Glu
                   500                    505                    510
     Pro Phe Pro Trp Pro Gly Lys Ser Gln Lys Ile Arg Ser Arg Tyr Leu
              515                    520                    525
     Glu Asp Thr Asp Arg Asn Leu Ser Arg Asp Glu Gln Arg Ala Lys Ala
          530                    535                    540
     Leu His Ile Pro Phe Ser Val Asp Glu Ile Val Gly Met Pro Val Asp
     545                    550                    555                    560
     Ser Phe Asn Ser Met Leu Ser Arg Tyr Tyr Leu Thr Asp Leu Gln Val
                   565                    570                          575Leu Ile Arg
     Asp Ile Arg Arg Arg Gly Lys Asn Lys Val Ala Ala
                   580                    585                    590
     Gln Asn Cys Arg Lys Arg Lys Leu Asp Ile Ile Leu Asn Leu Glu Asp
              595                    600                    605
     Asp Val Cys Asn Leu Gln Ala Lys Lys Glu Thr Leu Lys Arg Glu Gln
          610                    615                    620
     Ala Gln Cys Asn Lys Ala Ile Asn Ile Met Lys Gln Lys Leu His Asp
     625                    630                    635                    640
     Leu Tyr His Asp Ile Phe Ser Arg Leu Arg Asp Asp Gln Gly Arg Pro
                   645                    650                    655
     Val Asn Pro Asn His Tyr Ala Leu Gln Cys Thr His Asp Gly Ser Ile
                   660                    665                    670
     Leu Ile Val Pro Lys Glu Leu Val Ala Ser Gly His Lys Lys Glu Thr
              675                    680                    685
     Gln Lys Gly Lys Arg Lys
              690
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<210> 5349
<211> 425
<212> DNA
<213> Homo sapiens

<400> 5349
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60
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120
tgggcaaaca ccacaccagc agggagcccc aagcccagcc caagccccac aaagtctcca
180
gccaggaagg ggaaggcagg ataccactgc ctgggaaggc ggaagtgaga gaggcaggcc
240
aacccattcc tgtttctctt ctacttcttt ctccaaagaa agccctcact ctcctcgcta
300
cagcccaggg aggtcacgag gggctgggaa gactcctgtg gcaaagtggc ccactccagc
360
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420
cgcgt
425
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<210> 5350
<211> 134
<212> PRT
<213> Homo sapiens

<400> 5350

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Met Gly Gly Leu Gly Leu His Phe Phe Val Pro Thr His Ser Ser Gln
1               5                   10                  15
Val Thr Ala Cys His Ser Ser Pro Leu Pro Cys Gly Cys Gln Asp Asn
            20                  25                  30
Leu Gly Lys His His Thr Ser Arg Glu Pro Gln Ala Gln Pro Lys Pro
        35                  40                  45
His Lys Val Ser Ser Gln Glu Gly Glu Gly Arg Ile Pro Leu Pro Gly
        50                  55                  60
Lys Ala Glu Val Arg Glu Ala Gly Gln Pro Ile Pro Val Ser Leu Leu
65                  70                  75                  80
Leu Leu Ser Pro Lys Lys Ala Leu Thr Leu Leu Ala Thr Ala Gln Gly
                85                  90                  95
Gly His Glu Gly Leu Gly Arg Leu Leu Trp Gln Ser Gly Pro Leu Gln
                100                 105                 110
Pro Arg Pro Glu Lys Lys Arg Thr Pro Lys Ser Phe Trp Leu Pro Val
        115                 120                 125
Ser Ser Ala Phe Thr Arg
        130
```

<210> 5351
<211> 343
<212> DNA
<213> Homo sapiens

<400> 5351

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gtgcacagtc agctcgacta gggtgtcata ggccgcgctg cactgtcggc atcggaatct
60
gctggcccct gtgaacacag tcccgcacat cttgctgctc tgtcggtaca actgcaccga
120
gctgaacagg ctgggtttcg agacggaccg agaaggcaag ttctgctgca ggcttttgga
180
cagagcgtct tggtgccaat caaaatcact cttgttgctg ccgtttcggg tgtcacagtt
240
```

cctcctctca ctattggaca gcttgaagcc aaggcccagg cctgaccagt aggaatccga
300
caggatgttg gcgtagacag cggtcatttt atccatgcaa ttg
343

<210> 5352
<211> 112
<212> PRT
<213> Homo sapiens

<400> 5352
Met Asp Lys Met Thr Ala Val Tyr Ala Asn Ile Leu Ser Asp Ser Tyr
 1   5   10   15
Trp Ser Gly Leu Gly Leu Gly Phe Lys Leu Ser Asn Ser Glu Arg Arg
             20   25   30
Asn Cys Asp Thr Arg Asn Gly Ser Asn Lys Ser Asp Phe Asp Trp His
         35   40   45
Gln Asp Ala Leu Ser Lys Ser Leu Gln Gln Asn Leu Pro Ser Arg Ser
     50   55   60
Val Ser Lys Pro Ser Leu Phe Ser Ser Val Gln Leu Tyr Arg Gln Ser
65   70   75   80
Ser Lys Met Cys Gly Thr Val Phe Thr Gly Ala Ser Arg Phe Arg Cys
                 85   90   95
Arg Gln Cys Ser Ala Ala Tyr Asp Thr Leu Val Glu Leu Thr Val His
                 100   105   110

<210> 5353
<211> 4217<212> DNA
<213> Homo sapiens

<400> 5353
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ttttaaaaac aggacacgta ctgtatgagt aaacagcgtg gctaacacca agtccacact
120
ggtaagcttt tgagaaccat ttacactatg ttgacagtag tactgctgca ggcagacagc
180
ggaagaataa ataatagtgc ttcaagaaga gtagtgattg agaggatagg taaagagggc
240
gcctcatcgt ggaagctaga gcaggaacac ctccccagta gtgacatgtg caaagttcca
300
aatctccacg acaaagacag ctcaacccac tggaacaaac agactcccaa tgtggctggc
360
aactgcgggg gtagaagaac tcaggcaaag taggcacagg aatgggggag atgagagcca
420
agggacaaac gccgagaaag cgttccgaca agcatgtgtg ttcatacatg catacccccca
480
acaaagggca atgcactgtg taacagaact gaacacaatt taacaaagct gctcccagcc
540
ttcctgtcac ctctttggca gtagggcagg ccatctcaac ttcggacaca caaagacatt
600
ctcttcagga ggaaggctgt cctgtgtggt ggggacaagg cttcaggtaa gagcaaagct
660

4527

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atgatagcta cagcattaat tgaacatgcc taaacaaaaa agatgttaat tactagttac
720
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840
gccccatatg ctaaaatttg cacttcttgc cataaacttt tcatgtatat aagtcaaaac
900
ccagtctcct aggaccacta aacctatgat gggctttcaa ctgtaacact cattcacatc
960
tttaagttag gcccatggtc atggaacctg gccaaggttt caagcacgcc taagctgaag
1020
aaaaactaaa gtcacccca tataattagg tccagtctag gcacaggaag ccacagctgg
1080
ttgactgatc agggcttctc aggactggat gttggttgaa ttgaggattc cagaagtagc
1140
atcagatttg gaagcctttg aaagttctcg ctgttgaaaa ataaataaca tcagtggcca
1200
tactgcctct cttacacatg gcccacccctt ctaagtttgg ttaagtgtca gcaaaaggtc
1260
ccttgaaggt agtttctctg gatccctag cctgcaatag gctgcgttag gagtaaaagg
1320
tgaggaactc tgagcaccat tctattagtc acagacagag tgcatgtgca cgcatgcccg
1380
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1560
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1620
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1680
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1740
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1800
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1920
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1980
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2040
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2160
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2220
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2280
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2400
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2460
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2520
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2580
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2640
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2700
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2760
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2820
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2880
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2940
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3000
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3060
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3120
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3240
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3420
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3720
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3780
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3840
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3900
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4020
aggagtaaat gtgttttgtt cctagggcca gaggagcttg tcttccttgt cctctgttcc
4080
caccctcccc tgaacagaac ccagcccata agagacattc tcagatgaaa ctctgttttc
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4200
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4217
```

```
<210> 5354
<211> 605
<212> PRT
<213> Homo sapiens
```

```
<400> 5354
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1               5                   10                  15
Val His Glu Lys Lys Leu Gly Asp Lys Val Ala Phe Tyr Trp Glu Gly
            20                  25                  30
Asn Glu Pro Gly Glu Thr Thr Gln Ile Thr Tyr His Gln Leu Leu Val
        35                  40                  45
Gln Val Cys Gln Phe Ser Asn Val Leu Arg Lys Gln Gly Ile Gln Lys
    50                  55                  60
Gly Asp Arg Val Ala Ile Tyr Met Pro Met Ile Pro Glu Leu Val Val
65                  70                  75                  80
Ala Met Leu Ala Cys Ala Arg Ile Gly Ala Leu His Ser Ile Val Phe
                85                  90                  95
Ala Gly Phe Ser Ser Glu Ser Leu Cys Glu Arg Ile Leu Asp Ser Ser
            100                 105                 110
Cys Ser Leu Leu Ile Thr Thr Asp Ala Phe Tyr Arg Gly Glu Lys Leu
        115                 120                 125
Val Asn Leu Lys Glu Leu Ala Asp Glu Ala Leu Gln Lys Cys Gln Glu
    130                 135                 140
Lys Gly Phe Pro Val Arg Cys Cys Ile Val Val Lys His Leu Gly Arg
145                 150                 155                 160
Ala Glu Leu Gly Met Gly Thr Pro Pro Ala Ser Pro Pro Gln Leu Arg
                165                 170                 175
Gly His Ala Asp Val Gln Ile Ser Trp Asn Gln Gly Ile Asp Leu Trp
            180                 185                 190
Trp His Glu Leu Met Gln Glu Ala Gly Asp Glu Cys Glu Pro Glu Trp
        195                 200                 205
Cys Asp Ala Glu Asp Pro Leu Phe Ile Leu Tyr Thr Ser Gly Ser Thr
    210                 215                 220
Gly Lys Pro Lys Gly Val Val His Thr Val Gly Gly Tyr Met Leu Tyr
225                 230                 235                 240
Val Ala Thr Thr Phe Lys Tyr Val Phe Asp Phe His Ala Glu Asp Val
                245                 250                 255
Phe Trp Cys Thr Ala Asp Ile Gly Trp Ile Thr Gly His Ser Tyr Val
            260                 265                 270
Thr Tyr Gly Pro Leu Ala Asn Gly Ala Thr Ser Val Leu Phe Glu Gly
```

4530

```
                275                    280                    285
     Ile Pro Thr Tyr Pro Asp Val Asn Arg Leu Trp Ser Ile Val Asp Lys
         290                    295                    300
     Tyr Lys Val Thr Lys Phe Tyr Thr Ala Pro Thr Ala Ile Arg Leu Leu
     305                    310                    315                    320
     Met Lys Phe Gly Asp Glu Pro Val Thr Lys His Ser Arg Ala Ser Leu
                325                    330                    335
     Gln Val Leu Gly Thr Val Gly Glu Pro Ile Asn Pro Glu Ala Trp Leu
                340                    345                    350
     Trp Tyr His Arg Val Val Gly Ala Gln Arg Cys Pro Ile Val Asp Thr
                355                    360                    365
     Phe Trp Gln Thr Glu Thr Gly Gly His Met Leu Thr Pro Leu Pro Val
         370                    375                    380
     Pro Thr Pro Met Lys Pro Gly Ser Ala Thr Phe Pro Phe Phe Gly Val
     385                    390                    395                    400
     Ala Pro Ala Ile Leu Asn Glu Ser Gly Glu Glu Leu Glu Gly Glu Ala
                405                    410                    415
     Glu Gly Tyr Leu Val Phe Lys Gln Pro Trp Pro Gly Ile Met Arg Thr
                420                    425                    430
     Val Tyr Gly Asn His Glu Arg Phe Glu Thr Thr Tyr Ser Lys Lys Phe
                435                    440                    445
     Pro Gly Tyr Tyr Val Thr Gly Asp Gly Cys Gln Arg Asp Gln Asp Gly
         450                    455                    460
     Tyr Tyr Trp Ile Thr Gly Arg Ile Asp Asp Met Leu Asn Val Ser Gly
     465                    470                    475                    480
     His Leu Leu Ser Thr Ala Glu Val Glu Ser Ala Leu Val Glu His Glu
                485                    490                    495
     Ala Val Ala Glu Ala Ala Val Val Gly His Pro His Pro Val Lys Gly
                500                    505                    510
     Glu Cys Leu Tyr Cys Phe Val Thr Leu Cys Asp Gly His Thr Phe Ser
                515                    520                    525
     Pro Lys Leu Thr Glu Glu Leu Lys Lys Gln Ile Arg Glu Lys Ile Gly
         530                    535                    540
     Pro Ile Ala Thr Pro Asp Tyr Ile Gln Asn Ala Pro Gly Leu Pro Lys
     545                    550                    555                    560
     Thr Arg Ser Gly Lys Ile Met Arg Arg Val Leu Arg Lys Ile Ala Gln
                565                    570                    575
     Asn Asp His Asp Leu Gly Asp Met Ser Thr Val Ala Asp Pro Ser Val
                580                    585                    590
     Ile Ser His Leu Phe Ser His Arg Cys Leu Thr Ile Gln
         595                    600                    605
```

```
<210> 5355
<211> 1596
<212> DNA
<213> Homo sapiens

<400> 5355
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gatgaggtgt accaggacaa cgtgtactct ccagattgca gattccactc cttcaagaag
120
gtgctgtacg agatggggcc cgagtactcg agtaatgtgg agcttgcctc cttccactcc
180
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acctccaagg gctacatggg cgaatgcggc tacagaggag gctacatgga ggtggtcaat
240
ttgcaccccg agatcaaggg ccagctggtg aagctgctgt cggtgcgcct gtgcccccca
300
gtgtctgggc aggccgcgat ggacattgtt gtgaaccccc cggtggcagg agaggagtcc
360
tttgagcaat tcagccgaga gaaggagtcg gtcctgggta atctggccaa aaaagcaaag
420
ctgacggaag acctgtttaa ccaagtccca ggaattcact gcaacccctt gcaggggccc
480
atgtacgcct tccctcggat cttcattcct gccaaagctg tggaggctgc tcaggcccat
540
caaatggctc cagacatgtt ctactgcatg aagctcctgg aggagactgg catctgtgtc
600
gtgcccggca gtggctttgg gcagagggaa ggcacttacc acttcaggat gactatcctc
660
cctccagtgg agaagctgaa aacggtgctg cagaaggtga agacttcca catcaacttc
720
ctggagaagt acgcgtgagg acgcctgagc cccagcggga gacctgtcct tggctcttcc
780
tcccaatgcc cgtcaggctg aactcgcctc ccccgtgact ctgcctcggg cctcgcagag
840
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900
tgagagcgcc tctcttttga gcaaacaagc attctatatg caaccagagt agaggggacc
960
tgctcagcag gtgtgaccag ggttctctga atctgttatt gtttttgctt ctggaaagtt
1020
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1080
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1260
gagcgcagta gcacgtggac tgggcaggat gttgcactag cttggggtag atgctggggg
1320
ctgcggccac ggtcagaggg ccccactgtg aggcgtgggt gtgagccagg ctgcaggagg
1380
aactgggcct ccgcttccca gcaacgcagc caggcctgag aattctgtgc gcccggcggg
1440
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1500
cctgaatttc agtgacacat agtgcagccc ggcagtgtcc cacttccgtg gagagagccg
1560
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1596

<210> 5356
<211> 245
<212> PRT
<213> Homo sapiens

<400> 5356
Arg Lys Cys Ile Glu Asp Val Ile His Phe Ala Trp Glu Glu Lys Leu
1   5   10   15
Phe Leu Leu Ala Asp Glu Val Tyr Gln Asp Asn Val Tyr Ser Pro Asp
            20   25   30
Cys Arg Phe His Ser Phe Lys Lys Val Leu Tyr Glu Met Gly Pro Glu
        35   40   45
Tyr Ser Ser Asn Val Glu Leu Ala Ser Phe His Ser Thr Ser Lys Gly
    50   55   60
Tyr Met Gly Glu Cys Gly Tyr Arg Gly Gly Tyr Met Glu Val Val Asn
65   70   75   80
Leu His Pro Glu Ile Lys Gly Gln Leu Val Lys Leu Leu Ser Val Arg
            85   90   95
Leu Cys Pro Pro Val Ser Gly Gln Ala Ala Met Asp Ile Val Val Asn
        100   105   110
Pro Pro Val Ala Gly Glu Glu Ser Phe Glu Gln Phe Ser Arg Glu Lys
        115   120   125
Glu Ser Val Leu Gly Asn Leu Ala Lys Lys Ala Lys Leu Thr Glu Asp
    130   135   140
Leu Phe Asn Gln Val Pro Gly Ile His Cys Asn Pro Leu Gln Gly Ala
145   150   155   160
Met Tyr Ala Phe Pro Arg Ile Phe Ile Pro Ala Lys Ala Val Glu Ala
            165   170   175
Ala Gln Ala His Gln Met Ala Pro Asp Met Phe Tyr Cys Met Lys Leu
        180   185   190
Leu Glu Glu Thr Gly Ile Cys Val Val Pro Gly Ser Gly Phe Gly Gln
        195   200   205
Arg Glu Gly Thr Tyr His Phe Arg Met Thr Ile Leu Pro Pro Val Glu
    210   215   220
Lys Leu Lys Thr Val Leu Gln Lys Val Lys Asp Phe His Ile Asn Phe
225   230   235   240
Leu Glu Lys Tyr Ala
                245

<210> 5357
<211> 1722
<212> DNA
<213> Homo sapiens

<400> 5357
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120
gtgggctcct acttggttcg gaggtcccgc cggcctcagg tcactctcct ggaccccaat
180
gaaaagtacc tgctacgact gctagacaag acgactgtga gccacaacac caagaggttc
240
cgctttgccc tgcccaccgc ccaccacact ctggggctgc ctgtgggcaa acatatctac
300
ctctccaccc gaattgatgg cagcctggtc atcaggccat acactcctgt caccagtgat
360
gaggatcaag gctatgtgga tcttgtcatc aaggtctacc tgaagggtgt gcaccccaaa
420

4533

tttcctgagg gagggaagat gtctcagtac ctggatagcc tgaaggttgg ggatgtggtg
480
gagtttcggg ggccaagcgg gttgctcact tacactggaa aagggcattt taacattcag
540
cccaacaaga aatctccacc agaaccccga gtggcgaaga aactgggaat gattgccggc
600
gggacaggaa tcaccccaat gctacagctg atccgggcca tcctgaaagt ccctgaagat
660
ccaacccagt gctttctgct ttttgccaac cagacagaaa aggatatcat cttgcgggag
720
gacttagagg aactgcaggc ccgctatccc aatcgcttta agctctggtt cactctggat
780
catcccccaa aagattgggc ctacagcaag ggctttgtga ctgccgacat gatccgggaa
840
cacctgcccg ctccagggga tgatgtgctg gtactgcttt gtgggccacc cccaatggtg
900
cagctggcct gccatcccaa cttggacaaa ctgggctact cacaaaagat gcgattcacc
960
tactgagcat cctccagctt ccctggtgct gttcgctgca gttgttcccc atcagtactc
1020
aagcactata agccttagat tccttttcctc agagtttcag gttttttttcag ttacatctag
1080
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1140
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1200
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1320
cagtctgtgc aatgggtttt acttaaactt cactgttcaa cctatgagca aatctgtatg
1380
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1440
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1560
gtggcaggaa cccctggctg tgcaaataaa tggggctgag gcccctgtgt gatattgaaa
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1680
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
1722

<210> 5358
<211> 321
<212> PRT
<213> Homo sapiens

<400> 5358
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 1   5   10   15
Met Gly Ile Gln Thr Ser Pro Val Leu Leu Ala Ser Leu Gly Val Gly

4534

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                    20                    25                    30
          Leu Val Thr Leu Leu Gly Leu Ala Val Gly Ser Tyr Leu Val Arg Arg
                    35                    40                    45
          Ser Arg Arg Pro Gln Val Thr Leu Leu Asp Pro Asn Glu Lys Tyr Leu
                    50                    55                    60
          Leu Arg Leu Leu Asp Lys Thr Thr Val Ser His Asn Thr Lys Arg Phe
          65                    70                    75                    80
          Arg Phe Ala Leu Pro Thr Ala His His Thr Leu Gly Leu Pro Val Gly
                              85                    90                    95
          Lys His Ile Tyr Leu Ser Thr Arg Ile Asp Gly Ser Leu Val Ile Arg
                        100                   105                   110
          Pro Tyr Thr Pro Val Thr Ser Asp Glu Asp Gln Gly Tyr Val Asp Leu
                        115                   120                   125
          Val Ile Lys Val Tyr Leu Lys Gly Val His Pro Lys Phe Pro Glu Gly
                    130                   135                   140
          Gly Lys Met Ser Gln Tyr Leu Asp Ser Leu Lys Val Gly Asp Val Val
          145                   150                   155                   160
          Glu Phe Arg Gly Pro Ser Gly Leu Leu Thr Tyr Thr Gly Lys Gly His
                              165                   170                   175
          Phe Asn Ile Gln Pro Asn Lys Lys Ser Pro Pro Glu Pro Arg Val Ala
                        180                   185                   190
          Lys Lys Leu Gly Met Ile Ala Gly Gly Thr Gly Ile Thr Pro Met Leu
                        195                   200                   205
          Gln Leu Ile Arg Ala Ile Leu Lys Val Pro Glu Asp Pro Thr Gln Cys
                    210                   215                   220
          Phe Leu Leu Phe Ala Asn Gln Thr Glu Lys Asp Ile Ile Leu Arg Glu
          225                   230                   235                   240
          Asp Leu Glu Glu Leu Gln Ala Arg Tyr Pro Asn Arg Phe Lys Leu Trp
                              245                   250                   255
          Phe Thr Leu Asp His Pro Pro Lys Asp Trp Ala Tyr Ser Lys Gly Phe
                        260                   265                   270
          Val Thr Ala Asp Met Ile Arg Glu His Leu Pro Ala Pro Gly Asp Asp
                    275                   280                   285
          Val Leu Val Leu Leu Cys Gly Pro Pro Pro Met Val Gln Leu Ala Cys
                    290                   295                   300
          His Pro Asn Leu Asp Lys Leu Gly Tyr Ser Gln Lys Met Arg Phe Thr
          305                   310                   315                   320
          Tyr
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<210> 5359
<211> 5003
<212> DNA
<213> Homo sapiens

<400> 5359
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120
gaagtctaca gcagctgcga caccacgggg actggctttc tggaccgcca ggagctgacc
180
cagctctgcc ttaagcttca cctggagcag cagctgcccg tcctcctgca gacgcttctc
240
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4535

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ggaaacgacc atttcgccag ggttaacttt gaggaattta aggaaggttt tgtggctgtg
300
ttgtcttcaa atgctggtgt tcgcccctca gatgaagaca gtagttcttt ggaatcagct
360
gcctccagtg ccatccctcc aaagtatgtg aatggttcta agtggtatgg ccgtcggagc
420
cggcctgagc tatgtgacgc tgccacagaa gccagacgcg tgccggagca gcaaacccag
480
gccagcctga aaagtcacct ctggcgctca gcgtctctgg agagcgtgga gagtcccaag
540
tcagatgaag aggccgagag cactaaagaa gctcagaatg aattatttga agcacaagga
600
cagctgcaga cctgggattc tgaggacttt gggagccccc agaagtcctg cagcccctcc
660
tttgacaccc cagagagcca gatccggggc gtgtgggaag agctgggggt gggcagcagc
720
ggacacctga gcgagcagga gctggctgtg gtctgccaga gcgtcgggct ccagggactc
780
gagaaagagg aactcgaaga cctgtttaac aaactggatc aagacggaga cggcaaagtg
840
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900
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960
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1020
agcattgacg atggttctgg cttcgctttt cctgatcagg tcctggccat gtggacccag
1080
gaggggattc agaatggcag ggagatcttg cagagcctgg acttcagcgt ggacgagaag
1140
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1200
gtccagcagg cagccctggc ctgctaccac caggagctga gctaccagca agggcaggtg
1260
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1740
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1800
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1860
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4536

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agacggcagc tccctggact cggcccagca ggcatttcat tcctgggtaa ttctgctcca
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1980
acccagctgg agaccaaggt aaattactac gaaagggaaa ttgcggcact gaaaaggaac
2040
tttgagaagg agaggaagga catggagcag gctcgcaggc gcgaggtcag cgtgctggag
2100
ggtcagaagg ccgacctgga ggagctccac gagaagtctc aggaggtcat ctggggcctg
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2280
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2760
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2880
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3360
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3420
cacgatgcac agaggaagga aattgaggtt ttaaagaaag acaaggaaaa ggcctgctct
3480
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3600
cgtgtgacca ttcagatgtt aacacagagc ctggaggagg tggttcgcag tgggcagcag
3660
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3720
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3900
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3960
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4020
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4080
tacgtggaga cgcccacct ggtgagagca cttcaggcca ccgaggagaa gcagcgaggc
4140
gccgagaaac aaagccgcct cttggaagaa aaagttcgcg ctctcaacaa actcgtcagt
4200
aggattgccc ccgcagccct ctctgtgtaa agacagatta ttttctagga ttcattcgaa
4260
agcacatctt ttaaattaag ccactgtgct gccttagatt ccgtgggtca tgagccatga
4320
gtcctgggac atctgaggat tgggattctt tgttcacccc gcagatagtt aatgaatggt
4380
ctgccctggg caagatggag gtgggggctg ggggaatatg catgttgcag aagccggcgt
4440
ttttattagc ggtcctgagt aatttcctt ggcaaaattc ccagttttgc cactctctgg
4500
agccagatcc tgggagctgt cagcaaggag caggtaagtg agcagttatg gacagcactt
4560
tccatgtggt gcttccgacc ctggctgtca gagtgaaatg taaagtcagg gctctgtaca
4620
gttttgccat ttcactgttc tgctttaagc ttagcttatt agaactcttg gtggagggtg
4680
cgtacacaca ttccagaaaa ggcttcactc gctgggaacg tcaacccagc gagaaaggag
4740
gggaagcccc ttctccgggg accttatctg tggactcagg aatgatggtg tttattgcaa
4800
atgcacaatc ttttttccat tgaaatgtca tcacactgga aattgtacta tatgtaaaaa
4860
aaaaaaaaaa gtatagtttt atatttgaaa tgtatgcaaa ttatggccat atggctgatt
4920
ggaatgtact actgtaatat aaaaagtcac tgtatttgca ataaattctt ttctattaaa
4980
attgaaaaaa aaaaaaaaaa aaa
5003


     <210> 5360
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```
<211> 1406
<212> PRT
<213> Homo sapiens

<400> 5360
Gly Thr Gly Val Val Pro Arg Ser Trp Pro Arg Ala Gly Gly Arg Arg
1               5                   10                  15
Arg Arg Leu Pro Ala Cys Tyr Gly Met Asp Glu Glu Glu Asn His Tyr
            20                  25                  30
Val Ser Gln Leu Arg Glu Val Tyr Ser Ser Cys Asp Thr Thr Gly Thr
        35                  40                  45
Gly Phe Leu Asp Arg Gln Glu Leu Thr Gln Leu Cys Leu Lys Leu His
    50                  55                  60
Leu Glu Gln Gln Leu Pro Val Leu Leu Gln Thr Leu Leu Gly Asn Asp
65                  70                  75                  80
His Phe Ala Arg Val Asn Phe Glu Glu Phe Lys Glu Gly Phe Val Ala
                85                  90                  95
Val Leu Ser Ser Asn Ala Gly Val Arg Pro Ser Asp Glu Asp Ser Ser
            100                 105                 110
Ser Leu Glu Ser Ala Ala Ser Ser Ala Ile Pro Pro Lys Tyr Val Asn
        115                 120                 125
Gly Ser Lys Trp Tyr Gly Arg Arg Ser Arg Pro Glu Leu Cys Asp Ala
    130                 135                 140
Ala Thr Glu Ala Arg Arg Val Pro Glu Gln Gln Thr Gln Ala Ser Leu
145                 150                 155                 160
Lys Ser His Leu Trp Arg Ser Ala Ser Leu Glu Ser Val Glu Ser Pro
                165                 170                 175
Lys Ser Asp Glu Glu Ala Glu Ser Thr Lys Glu Ala Gln Asn Glu Leu
                180                 185                 190
Phe Glu Ala Gln Gly Gln Leu Gln Thr Trp Asp Ser Glu Asp Phe Gly
            195                 200                 205
Ser Pro Gln Lys Ser Cys Ser Pro Ser Phe Asp Thr Pro Glu Ser Gln
    210                 215                 220
Ile Arg Gly Val Trp Glu Glu Leu Gly Val Gly Ser Ser Gly His Leu
225                 230                 235                 240
Ser Glu Gln Glu Leu Ala Val Val Cys Gln Ser Val Gly Leu Gln Gly
                245                 250                 255
Leu Glu Lys Glu Glu Leu Glu Asp Leu Phe Asn Lys Leu Asp Gln Asp
                260                 265                 270
Gly Asp Gly Lys Val Ser Leu Glu Glu Phe Gln Leu Gly Leu Phe Ser
    275                 280                 285
His Glu Pro Ala Leu Leu Leu Glu Ser Ser Thr Arg Val Lys Pro Ser
    290                 295                 300
Lys Ala Trp Ser His Tyr Gln Val Pro Glu Glu Ser Gly Cys His Thr
305                 310                 315                 320
Thr Thr Thr Ser Ser Leu Val Ser Leu Cys Ser Ser Leu Arg Leu Phe
                325                 330                 335
Ser Ser Ile Asp Asp Gly Ser Gly Phe Ala Phe Pro Asp Gln Val Leu
                340                 345                 350
Ala Met Trp Thr Gln Glu Gly Ile Gln Asn Gly Arg Glu Ile Leu Gln
            355                 360                 365
Ser Leu Asp Phe Ser Val Asp Glu Lys Val Asn Leu Leu Glu Leu Thr
    370                 375                 380
Trp Ala Leu Asp Asn Glu Leu Met Thr Val Asp Ser Ala Val Gln Gln
```

```
385                    390                    395                    400
Ala Ala Leu Ala Cys Tyr His Gln Glu Leu Ser Tyr Gln Gln Gly Gln
                405                    410                    415
Val Glu Gln Leu Ala Arg Glu Arg Asp Lys Ala Arg Gln Asp Leu Glu
            420                    425                    430
Arg Ala Glu Lys Arg Asn Leu Glu Phe Val Lys Glu Met Asp Asp Cys
            435                    440                    445
His Ser Thr Leu Glu Gln Leu Thr Glu Lys Lys Ile Lys His Leu Glu
        450                    455                    460
Gln Gly Tyr Arg Glu Arg Leu Ser Leu Leu Arg Ser Glu Val Glu Ala
465                    470                    475                    480
Glu Arg Glu Leu Phe Trp Glu Gln Ala His Arg Gln Arg Ala Ala Leu
                485                    490                    495
Glu Trp Asp Val Gly Arg Leu Gln Ala Glu Glu Ala Gly Leu Arg Glu
                500                    505                    510
Lys Leu Thr Leu Ala Leu Lys Glu Asn Ser Arg Leu Gln Lys Glu Ile
            515                    520                    525
Val Glu Val Val Glu Lys Leu Ser Asp Ser Glu Arg Leu Ala Leu Lys
            530                    535                    540
Leu Gln Lys Asp Leu Glu Phe Val Leu Lys Asp Lys Leu Glu Pro Gln
545                    550                    555                    560
Ser Ala Glu Leu Leu Ala Gln Glu Glu Arg Phe Ala Ala Val Leu Lys
                565                    570                    575
Glu Tyr Glu Leu Lys Cys Arg Asp Leu Gln Asp Arg Asn Asp Glu Leu
                580                    585                    590
Gln Ala Glu Leu Glu Gly Leu Trp Ala Arg Leu Pro Lys Asn Arg His
            595                    600                    605
Ser Pro Ser Trp Ser Pro Asp Gly Arg Arg Arg Gln Leu Pro Gly Leu
        610                    615                    620
Gly Pro Ala Gly Ile Ser Phe Leu Gly Asn Ser Ala Pro Val Ser Ile
625                    630                    635                    640
Glu Thr Glu Leu Met Met Glu Gln Val Lys Glu His Tyr Gln Asp Leu
                645                    650                    655
Arg Thr Gln Leu Glu Thr Lys Val Asn Tyr Tyr Glu Arg Glu Ile Ala
            660                    665                    670
Ala Leu Lys Arg Asn Phe Glu Lys Glu Arg Lys Asp Met Glu Gln Ala
            675                    680                    685
Arg Arg Arg Glu Val Ser Val Leu Glu Gly Gln Lys Ala Asp Leu Glu
            690                    695                    700
Glu Leu His Glu Lys Ser Gln Glu Val Ile Trp Gly Leu Gln Glu Gln
705                    710                    715  .                720
Leu Gln Asp Thr Ala Arg Gly Pro Glu Pro Glu Gln Met Gly Leu Ala
                725                    730                    735
Pro Cys Cys Thr Gln Ala Leu Cys Gly Leu Ala Leu Arg His His Ser
            740                    745                    750
His Leu Gln Gln Ile Arg Arg Glu Ala Glu Ala Glu Leu Ser Gly Glu
        755                    760                    765
Leu Ser Gly Leu Gly Ala Leu Pro Ala Arg Arg Asp Leu Thr Leu Glu
    770                    775                    780
Leu Glu Glu Pro Pro Gln Gly Pro Leu Pro Arg Gly Ser Gln Arg Ser
785                    790                    795                    800
Glu Gln Leu Glu Leu Glu Arg Ala Leu Lys Leu Gln Pro Cys Ala Ser
                805                    810                    815
Glu Lys Arg Ala Gln Met Cys Val Ser Leu Ala Leu Glu Glu Glu Glu
```

```
                 820                825                830
Leu Glu Leu Ala Arg Gly Lys Arg Val Asp Gly Pro Ser Leu Glu Ala
        835                840                845
Glu Met Gln Ala Leu Pro Lys Asp Gly Leu Val Ala Gly Ser Gly Gln
    850                855                860
Glu Gly Thr Arg Gly Leu Leu Pro Leu Arg Pro Gly Cys Gly Glu Arg
865                870                875                880
Pro Leu Ala Trp Leu Ala Pro Gly Asp Gly Arg Glu Ser Glu Glu Ala
            885                890                895
Ala Gly Ala Gly Pro Arg Arg Arg Gln Ala Gln Asp Thr Glu Ala Thr
            900                905                910
Gln Ser Pro Ala Pro Ala Pro Ala Pro Ala Ser His Gly Pro Ser Glu
            915                920                925
Arg Trp Ser Arg Met Gln Pro Cys Gly Val Asp Gly Asp Ile Val Pro
    930                935                940
Lys Glu Pro Glu Pro Phe Gly Ala Ser Ala Ala Gly Leu Glu Gln Pro
945                950                955                960
Gly Ala Arg Glu Leu Pro Leu Leu Gly Thr Glu Arg Asp Ala Ser Gln
            965                970                975
Thr Gln Pro Arg Met Trp Glu Pro Pro Leu Arg Pro Ala Ala Ser Cys
        980                985                990
Arg Gly Gln Ala Glu Arg Leu Gln Ala Ile Gln Glu Glu Arg Ala Arg
        995                1000               1005
Ser Trp Ser Arg Gly Thr Gln Glu Gln Ala Ser Glu Gln Gln Ala Arg
    1010               1015               1020
Ala Glu Gly Ala Leu Glu Pro Gly Cys His Lys His Ser Val Glu Val
1025               1030               1035               1040
Ala Arg Arg Gly Ser Leu Pro Ser His Leu Gln Leu Ala Asp Pro Gln
            1045               1050               1055
Gly Ser Trp Gln Glu Gln Leu Ala Ala Pro Glu Glu Gly Glu Thr Lys
            1060               1065               1070
Ile Ala Leu Glu Arg Glu Lys Asp Asp Met Glu Thr Lys Leu Leu His
            1075               1080               1085
Leu Glu Asp Val Val Arg Ala Leu Glu Lys His Val Asp Leu Arg Glu
    1090               1095               1100
Asn Asp Arg Leu Glu Phe His Arg Leu Ser Glu Glu Asn Thr Leu Leu
1105               1110               1115               1120
Lys Asn Asp Leu Gly Arg Val Arg Gln Glu Leu Glu Ala Ala Glu Ser
            1125               1130               1135
Thr His Asp Ala Gln Arg Lys Glu Ile Glu Val Leu Lys Lys Asp Lys
            1140               1145               1150
Glu Lys Ala Cys Ser Glu Met Glu Val Leu Asn Arg Gln Asn Gln Asn
        1155               1160               1165
Tyr Lys Asp Gln Leu Ser Gln Leu Asn Val Arg Val Leu Gln Leu Gly
    1170               1175               1180
Gln Glu Ala Ser Thr His Gln Ala Gln Asn Glu Glu His Arg Val Thr
1185               1190               1195               1200
Ile Gln Met Leu Thr Gln Ser Leu Glu Glu Val Val Arg Ser Gly Gln
            1205               1210               1215
Gln Gln Ser Asp Gln Ile Gln Lys Leu Arg Val Glu Leu Glu Cys Leu
            1220               1225               1230
Asn Gln Glu His Gln Ser Leu Gln Leu Pro Trp Ser Glu Leu Thr Gln
        1235               1240               1245
Thr Leu Glu Glu Ser Gln Asp Gln Val Gln Gly Ala His Leu Arg Leu
```

```
          1250              1255              1260
Arg Gln Ala Gln Ala Gln His Leu Gln Glu Val Arg Leu Val Pro Gln
1265              1270              1275              1280
Asp Arg Val Ala Glu Leu His Arg Leu Leu Ser Leu Gln Gly Glu Gln
                  1285              1290              1295
Ala Arg Arg Arg Leu Asp Ala Gln Arg Glu Glu His Glu Lys Gln Leu
              1300              1305              1310
Lys Ala Thr Glu Glu Arg Val Glu Glu Ala Glu Met Ile Leu Lys Asn
          1315              1320              1325
Met Glu Met Leu Leu Gln Glu Lys Val Asp Lys Leu Lys Glu Gln Phe
          1330              1335              1340
Glu Lys Asn Thr Lys Ser Asp Leu Leu Leu Lys Glu Leu Tyr Val Glu
1345              1350              1355              1360
Asn Ala His Leu Val Arg Ala Leu Gln Ala Thr Glu Glu Lys Gln Arg
                  1365              1370              1375
Gly Ala Glu Lys Gln Ser Arg Leu Leu Glu Glu Lys Val Arg Ala Leu
              1380              1385              1390
Asn Lys Leu Val Ser Arg Ile Ala Pro Ala Ala Leu Ser Val
          1395              1400              1405
```

<210> 5361
<211> 1080
<212> DNA
<213> Homo sapiens

<400> 5361
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nngaattcct ctccaaagca gagtacgtca agttttccct ggtgtcagac agcatttcac
60
catgaaaccc taagacctgc ctcctgggct ccttccagct ggtgggcctg gtgtgaaggt
120
gggcttcctg ggcctccggc agatggagga tggcattaaa tgccaacaca gtcagcttac
180
catccacaag gccagcagct gccaacagct gccctagacc tatcaacaag acaacttcat
240
ggctcccaat gggaatggag gctgggcccg ccctacttag agcaggggaa agaactttc
300
cctcaaagag ccggggcagg atgccagaat ctaactacat cctctcccgg tttgcagttc
360
taggaagtgg aatttgctgc cctaggcgtg gtctaaagga caagtttaga aatgattcaa
420
ctcaagttcc taaacagagt aagtgccagt tgatgtccca ccgtggatcc tttactccag
480
aaaaattgta atgatggctc ggccaccgcc ttggctagag tcccactgca cgcgtgtcgt
540
gagggccgat gggcaagtcc gtccggtttt ttttgttgtt gttgttgttt tttgagatgg
600
agtctcgccc tgnttgccca gactgaagtg caaaggcccg atctcaactc actgcaacct
660
ccgcctcctg ggttcaaagg attctcctgt ctcagcctcc tgagtagctg ggattacagg
720
cacccgccag cacgcccagc tttttttttgt attttttagta gagacggggt tttatcatgt
780
tggccaggct ggtctcgaac gcctgacctc atgnnatcca cccgccttgg cctcccaaat
840
```

4542

tgctgggacc acaggcgtga gccaccgcgc ccggccgtct gtctggtttt caaaccaatc
900
aatgaacccg taagcctctt tggtatatat aacaatgaaa aaattcatta agccatgaaa
960
tctagaaata agtcatattt ctgagttgat aaaatgcttt tctgaacata cattttaggt
1020
atctgggcgt gctggcgggt gcctgtaatc ccagctactc ggggaggctt gagacaggga
1080

<210> 5362
<211> 165
<212> PRT
<213> Homo sapiens

<400> 5362
Cys Pro Thr Val Asp Pro Leu Leu Gln Lys Asn Cys Asn Asp Gly Ser
1   5   10   15
Ala Thr Ala Leu Ala Arg Val Pro Leu His Ala Cys Arg Glu Gly Arg
            20   25   30
Trp Ala Ser Pro Ser Gly Phe Phe Cys Cys Cys Cys Phe Leu Arg
            35   40   45
Trp Ser Leu Ala Leu Xaa Ala Gln Thr Glu Val Gln Arg Pro Asp Leu
        50   55   60
Asn Ser Leu Gln Pro Pro Pro Gly Phe Lys Gly Phe Ser Cys Leu
65   70   75   80
Ser Leu Leu Ser Ser Trp Asp Tyr Arg His Pro Pro Ala Arg Pro Ala
                85   90   95
Phe Phe Cys Ile Phe Ser Arg Asp Gly Val Leu Ser Cys Trp Pro Gly
                100   105   110
Trp Ser Arg Thr Pro Asp Leu Met Xaa Ser Thr Arg Leu Gly Leu Pro
            115   120   125
Asn Cys Trp Asp His Arg Arg Glu Pro Pro Arg Pro Ala Val Cys Leu
        130   135   140
Val Phe Lys Pro Ile Asn Glu Pro Val Ser Leu Phe Gly Ile Tyr Asn
145   150   155   160
Asn Glu Lys Ile His
                165

<210> 5363
<211> 894
<212> DNA
<213> Homo sapiens

<400> 5363
cggccggcgc gggcccctgg cgggcgggcg gtacagcccc aagcctgaga cccggacctg
60
agcatcgcag gttcgagtcc cgccccgcct ggggcgaagc cgggggtggc ggcgacctcg
120
cggcgttgca ccggctctgt gagcacctcc cctctgagca cttcccttgt gacaggccac
180
ttcccttgtg acaggcccag gacgaggtgg ccaggcggcc cccatggcgt ccctggtcta
240
ggcggagaac cgcctgggcg atgagtgaga acctcgacaa cgagggcccg aagcccatgg
300

4543

```
agagctgtgg ccaggagagc agcagtgccc tgagctgccc taccgtctcg gtgcccctg
360
cagccccggc agccctggag gaggtggaga aagagggcgc tggggcggct acagggcncg
420
gggcctcagc ccgggctcta cagctacatc agggatgact tgtttacctc tgagatcttt
480
aaactggagc tgcagaacgc gcctcgccac gccagcttca gcgacgtccg gcgcttcctg
540
ggccgctttg gtctgcagcc ccacaaaacc aaactctttg ggcaaccacc ctgcgccttt
600
gtgacattcc gcagcgctgc agagagggac aaggccctgc gcgttttgca tggtgccctc
660
tggaaaggcc gcccactcag tgtggcctgg cccggcccaa ggccgacccc atggccagga
720
ggaggcngac aggagggtga gagtgagcca ccagtaacac gangtggccg acgtggtgac
780
ccctctatgg acagtgccct antgctgagc agcttgagcg gaagcagctg gagtgcgagc
840
aggtgctgca gaaacnttgc ccaggaaatc gggagcacca accgtgcctt gcgt
894
```

<210> 5364
<211> 187
<212> PRT
<213> Homo sapiens

<400> 5364
```
Ala Ala Leu Pro Ser Arg Cys Pro Leu Gln Pro Arg Gln Pro Trp Arg
1               5                   10                  15
Arg Trp Arg Lys Arg Ala Leu Gly Arg Leu Gln Gly Xaa Gly Pro Gln
            20                  25                  30
Pro Gly Leu Tyr Ser Tyr Ile Arg Asp Asp Leu Phe Thr Ser Glu Ile
            35                  40                  45
Phe Lys Leu Glu Leu Gln Asn Ala Pro Arg His Ala Ser Phe Ser Asp
        50                  55                  60
Val Arg Arg Phe Leu Gly Arg Phe Gly Leu Gln Pro His Lys Thr Lys
65                  70                  75                  80
Leu Phe Gly Gln Pro Pro Cys Ala Phe Val Thr Phe Arg Ser Ala Ala
                85                  90                  95
Glu Arg Asp Lys Ala Leu Arg Val Leu His Gly Ala Leu Trp Lys Gly
            100                 105                 110
Arg Pro Leu Ser Val Ala Trp Pro Gly Pro Arg Pro Thr Pro Trp Pro
            115                 120                 125
Gly Gly Gly Xaa Gln Glu Gly Glu Ser Glu Pro Pro Val Thr Arg Xaa
        130                 135                 140
Gly Arg Arg Gly Asp Pro Ser Met Asp Ser Ala Leu Xaa Leu Ser Ser
145                 150                 155                 160
Leu Ser Gly Ser Ser Trp Ser Ala Ser Arg Cys Cys Arg Asn Xaa Ala
                165                 170                 175
Gln Glu Ile Gly Ser Thr Asn Arg Ala Leu Arg
                180                 185
```

<210> 5365
<211> 1824

```
<212> DNA
<213> Homo sapiens

<400> 5365
cagcctttcc cggcagcgag cgctcggcca ggtgcactag gcgctgtgcg ggcccccctt
60
ccccgcgagt ccctcaagcg ggaacctgcc tcgtgtctcc caggagccat ggaggctgtg
120
gaactcgcca gaaaactgca ggaggaagct acgtgctcca tctgtctgga ttacttcaca
180
gaccctgtga tgaccacctg tggccacaac ttctgccgag cctgcatcca gctgagctgg
240
gaaaaggcga ggggcaagaa ggggaggcgg aagcggaagg gctccttccc ctgccccgag
300
tgcagagaga tgtccccgca gaggaacctg ctgcccaacc ggctgctgac caaggtggcc
360
gagatggcgc agcagcatcc tggtctgcag aagcaagacc tgtgccagga gcaccacgag
420
cccctcaagc ttttctgcca gaaggaccag agccccatct gtgtggtgtg cagggagtcc
480
cgggagcacc ggctgcacag ggtgctgccc gccgaggagg cagtgcaggg gtacaagttg
540
aagctggagg aggacatgga gtaccttcgg gagcagatca ccaggacagg gaatctgcag
600
gccagggagg agcagagctt agccgagtgg caggcaagg tgaaggagcg gagagaacgc
660
attgtgctgg agtttgagaa gatgaacctc tacctggtgg aagaagagca gaggctcctc
720
caggctctgg agacggaaga agaggagact gccagcaggc tccgggagag cgtggcctgc
780
ctggaccggc agggtcactc tctggagctg ctgctgctgc agctggagga gcggagcaca
840
caggggcccc tccagatgct gcaggacatg aaggaacccc tgagcaggaa gaacaacgtg
900
agtgtgcagt gcccagaggt tgcccccccca accagaccca ggactgtgtg cagagttccc
960
ggacagattg aagtgctaag aggctttcta gaggatgtgg tgcctgatgc cacctccgcg
1020
tacccctacc tcctcctgta tgagagccgc cagaggcgct acctcggctc ttcgccggag
1080
ggcagtgggt tctgcagcaa ggaccgattt gtggcttacc cctgtgctgt gggccagacg
1140
gccttctcct ctgggaggca ctactgggag gtgggcatga acatcaccgg ggacgcgttg
1200
tgggccctgg gtgtgtgcag ggacaacgtg agccggaaag acagggtcct caagtgcccc
1260
gaaaacggct tctgggtggt gcagctgtcc aaggggacca agtacttatc caccttctct
1320
gccctaaccc cggtcatgct gatggagcct cccagccaca tgggcatctt cctggacttc
1380
gaagccgggg aagtgtcctt ctacagtgta agcgatgggt cccacctgca cacctactcc
1440
caggccacct tcccaggccc cctgcagcct ttcttctgcc tggggggctcc gaagtctggt
1500
```

cagatggtca tctccacagt gaccatgtgg gtgaaaggat agacacagac cggggggactc
1560
gggcactgct cctggctctg cagaaggtgt gggccttctg cttactgcag gccacctgcc
1620
agggttctct ggcatcacgc tggcagccat tagacacaca ggggggtttc tcaaattcta
1680
aatataattg tgattagaac tgtcaaacat taagagggta tactgacaga tgcttcctag
1740
aggaaacttt tgaaagcccc tgcgttctga gtggaccgat ttctaaatcc atacctacac
1800
accaaaaaaa aaaaaaagtc gagc
1824

<210> 5366
<211> 477
<212> PRT
<213> Homo sapiens

<400> 5366
Met Glu Ala Val Glu Leu Ala Arg Lys Leu Gln Glu Glu Ala Thr Cys
1   5   10   15
Ser Ile Cys Leu Asp Tyr Phe Thr Asp Pro Val Met Thr Thr Cys Gly
            20   25   30
His Asn Phe Cys Arg Ala Cys Ile Gln Leu Ser Trp Glu Lys Ala Arg
            35   40   45
Gly Lys Lys Gly Arg Arg Lys Arg Lys Gly Ser Phe Pro Cys Pro Glu
        50   55   60
Cys Arg Glu Met Ser Pro Gln Arg Asn Leu Leu Pro Asn Arg Leu Leu
65   70   75   80
Thr Lys Val Ala Glu Met Ala Gln Gln His Pro Gly Leu Gln Lys Gln
                85   90   95
Asp Leu Cys Gln Glu His His Glu Pro Leu Lys Leu Phe Cys Gln Lys
            100   105   110
Asp Gln Ser Pro Ile Cys Val Val Cys Arg Glu Ser Arg Glu His Arg
            115   120   125
Leu His Arg Val Leu Pro Ala Glu Glu Ala Val Gln Gly Tyr Lys Leu
        130   135   140
Lys Leu Glu Glu Asp Met Glu Tyr Leu Arg Glu Gln Ile Thr Arg Thr
145   150   155   160
Gly Asn Leu Gln Ala Arg Glu Glu Gln Ser Leu Ala Glu Trp Gln Gly
            165   170   175
Lys Val Lys Glu Arg Arg Glu Arg Ile Val Leu Glu Phe Glu Lys Met
            180   185   190
Asn Leu Tyr Leu Val Glu Glu Glu Gln Arg Leu Leu Gln Ala Leu Glu
            195   200   205
Thr Glu Glu Glu Glu Thr Ala Ser Arg Leu Arg Glu Ser Val Ala Cys
        210   215   220
Leu Asp Arg Gln Gly His Ser Leu Glu Leu Leu Leu Leu Gln Leu Glu
225   230   235   240
Glu Arg Ser Thr Gln Gly Pro Leu Gln Met Leu Gln Asp Met Lys Glu
            245   250   255
Pro Leu Ser Arg Lys Asn Asn Val Ser Val Gln Cys Pro Glu Val Ala
            260   265   270
Pro Pro Thr Arg Pro Arg Thr Val Cys Arg Val Pro Gly Gln Ile Glu

```
                 275                    280                    285
     Val Leu Arg Gly Phe Leu Glu Asp Val Val Pro Asp Ala Thr Ser Ala
         290                    295                    300
     Tyr Pro Tyr Leu Leu Leu Tyr Glu Ser Arg Gln Arg Arg Tyr Leu Gly
     305                    310                    315                    320
     Ser Ser Pro Glu Gly Ser Gly Phe Cys Ser Lys Asp Arg Phe Val Ala
                     325                    330                    335
     Tyr Pro Cys Ala Val Gly Gln Thr Ala Phe Ser Ser Gly Arg His Tyr
                 340                    345                    350
     Trp Glu Val Gly Met Asn Ile Thr Gly Asp Ala Leu Trp Ala Leu Gly
                 355                    360                    365
     Val Cys Arg Asp Asn Val Ser Arg Lys Asp Arg Val Leu Lys Cys Pro
             370                    375                    380
     Glu Asn Gly Phe Trp Val Val Gln Leu Ser Lys Gly Thr Lys Tyr Leu
     385                    390                    395                    400
     Ser Thr Phe Ser Ala Leu Thr Pro Val Met Leu Met Glu Pro Pro Ser
                     405                    410                    415
     His Met Gly Ile Phe Leu Asp Phe Glu Ala Gly Glu Val Ser Phe Tyr
                 420                    425                    430
     Ser Val Ser Asp Gly Ser His Leu His Thr Tyr Ser Gln Ala Thr Phe
             435                    440                    445
     Pro Gly Pro Leu Gln Pro Phe Phe Cys Leu Gly Ala Pro Lys Ser Gly
             450                    455                    460
     Gln Met Val Ile Ser Thr Val Thr Met Trp Val Lys Gly
     465                    470                    475
```

```
<210> 5367
<211> 549
<212> DNA
<213> Homo sapiens
```

```
<400> 5367
nntcctcttc cccctcattc tcttcccccct cgtcttcagg aggccggtgg gcaggagctg
60
ggatctcggg tggctgcatg cgtgtctcct tgggggaagt ctcgggggaa gtaggctgtg
120
gagtctcagg ggctggggat gctgcccccg aagcccccta cttttgggga gttcctgtcc
180
cagcacaaag ctgaggccag cagccgcaga aggagaaaga gcagtcggcc ccaggccaag
240
gcagcgccca gggcctacag tgaccatgat gaccgctggg agacaaaaga aggggcagca
300
tccccagccc ctgagactcc acagcctact tcccccgaga cttcccccaa ggagacaccc
360
atgcagccac ccgagatccc agctcctgcc caccggcctc ctgaagacga gggggaagag
420
aatgagggggg aagaggatga agaatgggag gacataagtg aggatgagga agaggaggag
480
atcgaggtgg aagaaggtga tgaggaggaa ccagcccaag accaccaagc cccagaggct
540
gcccccacc
549
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```
<210> 5368
```

                                   4547

<211> 137
<212> PRT
<213> Homo sapiens

<400> 5368
Met Leu Pro Pro Lys Pro Pro Thr Phe Gly Glu Phe Leu Ser Gln His
1   5   10   15
Lys Ala Glu Ala Ser Ser Arg Arg Arg Arg Lys Ser Ser Arg Pro Gln
            20   25   30
Ala Lys Ala Ala Pro Arg Ala Tyr Ser Asp His Asp Asp Arg Trp Glu
        35   40   45
Thr Lys Glu Gly Ala Ala Ser Pro Ala Pro Glu Thr Pro Gln Pro Thr
    50   55   60
Ser Pro Glu Thr Ser Pro Lys Glu Thr Pro Met Gln Pro Pro Glu Ile
65   70   75   80
Pro Ala Pro Ala His Arg Pro Pro Glu Asp Glu Gly Glu Glu Asn Glu
                85   90   95
Gly Glu Glu Asp Glu Glu Trp Glu Asp Ile Ser Glu Asp Glu Glu Glu
            100   105   110
Glu Glu Ile Glu Val Glu Glu Gly Asp Glu Glu Glu Pro Ala Gln Asp
        115   120   125
His Gln Ala Pro Glu Ala Ala Pro Thr
    130   135

<210> 5369
<211> 646
<212> DNA
<213> Homo sapiens

<400> 5369
ngggaggcgg gaggcgcggc cgccgctcca gctgcgagtc cgcccgccgc ccgccgccgc
60
cgccgccggc tcggtcccgc gcccgccatg gcccgcctga cggagagcga ggcgcgccgg
120
cagcagcagc agctcctgca gccgcggccc tcgcccgtgg gcagcagcgg gcccgagccc
180
cccggggggc agcccgacgg catgaaggac ctggacgcca tcaaactctt cgtgggccag
240
atcccgcggc acctggacga gaaggacctc aagccgctct tcgagcagtt cggccgcatc
300
tacgagctca cggtgctcaa agacccctac acggggatgc acaaaggtgg gcgcccggcc
360
ccctcccccc tctcccectc cctccgcctc ccacccccacc ttccggcatc ttctctcccc
420
catcaccatc cctcctctgc tcacctccct cctctgcctg cctctgccgg agcatcggtt
480
cttaccccct ccctcccacc cacccctcct ccccctctctg ggggtgcagc tgacagatcc
540
gagcgggccc cctcccctcc tccgcccccct ctccctccct ccccaccttc cggcatctcc
600
tctctctctc cctctctctc tccctctctc tctcccttttc tcttct
646

<210> 5370

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<211> 148
<212> PRT
<213> Homo sapiens

<400> 5370
Met Lys Asp Leu Asp Ala Ile Lys Leu Phe Val Gly Gln Ile Pro Arg
1               5                   10                  15
His Leu Asp Glu Lys Asp Leu Lys Pro Leu Phe Glu Gln Phe Gly Arg
            20                  25                  30
Ile Tyr Glu Leu Thr Val Leu Lys Asp Pro Tyr Thr Gly Met His Lys
        35                  40                  45
Gly Gly Arg Pro Ala Pro Ser Pro Leu Ser Pro Ser Leu Arg Leu Pro
    50                  55                  60
Pro His Leu Pro Ala Ser Ser Leu Pro His His His Pro Ser Ser Ala
65                  70                  75                  80
His Leu Pro Pro Leu Pro Ala Ser Ala Gly Ala Ser Val Leu Thr Pro
                85                  90                  95
Ser Leu Pro Pro Thr Pro Pro Pro Leu Ser Gly Gly Ala Ala Asp Arg
            100                 105                 110
Ser Glu Arg Ala Pro Ser Pro Pro Pro Pro Pro Leu Pro Pro Ser Pro
        115                 120                 125
Pro Ser Gly Ile Ser Ser Leu Ser Pro Ser Leu Ser Pro Ser Leu Ser
    130                 135                 140
Pro Phe Leu Phe
145


<210> 5371
<211> 1177
<212> DNA
<213> Homo sapiens

<400> 5371
nnacacagtg ccagcgccct catgtaccac cggaacgaga gcctacagcc cagcctgcag
60
agcccgcaaa cggagctgcg gtcggacttc cagtgcgttg tgggcttcgg gggcattcac
120
tccacgccgt ccactgtcct cagcgaccag gccaagtatc taaacccctt actgggagag
180
tggaagcact tcactgcctc cctggcccc cgcatgtcca accagggcat cgcggtgctc
240
aacaacttcg tatacttgat tggaggggac aacaatgtcc aaggatttcg agcagagtcc
300
cgatgctgga ggtatgaccc acggcacaac cgctggnttc cagatccagt ccctgcagca
360
ggagcacgcc gacctgtcnn cgtgtgtgtt gtaggcaggt acatctacgc tgtggcgggc
420
cgtgactacc acaatgacct gaatgctgtg gagcgctacg accctgccac caactcctgg
480
gcatacgtgg ccccactcaa gagggaggtg tatgcccacg caggcgcgac gctggagggg
540
aagatgtata tcacctgcgg ccgcagaggg gaggattacc tgaaagagac acactgctac
600
gatccaggca gcaacacttg cacacactg ctgatgggc ctgtgcggcg cgcctggcac
660
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```
ggcatggcaa ccctcctcaa caagctgtat gtgatcgggg gcagcaacaa cgatgccgga
720
tacaggaggg acgtgcacca ggtggcctgc tacagctgca cgtctggaca gtggtcatct
780
gtctgcccac tccctgctgg gcacggtgag cctggcattg ctgtgctgga caacaggatc
840
tatgtgttag gtggccgctc acacaaccgc ggcagccgca caggctacgt gcacatttac
900
gatgtggaga aggactgctg ggaggaaggg ccccagctgg acaactccat ctcaggcctg
960
gcggcctgtg tgctcaccct gccccgctcc ctgctccttg agccgccccg cgggacccct
1020
gaccgcagcc aggccgaccc ggactttgcc tctgaggtga tgagtgtgtc tgactgggag
1080
gagtttgaca actccagtga ggactaggct ccctgtgcct ggcatcagag ggaagggagg
1140
ctggggctgc agggcagtga aacccacgca gcctagg
1177


<210> 5372
<211> 368
<212> PRT
<213> Homo sapiens

<400> 5372
Xaa His Ser Ala Ser Ala Leu Met Tyr His Arg Asn Glu Ser Leu Gln
  1               5                  10                  15
Pro Ser Leu Gln Ser Pro Gln Thr Glu Leu Arg Ser Asp Phe Gln Cys
             20                  25                  30
Val Val Gly Phe Gly Gly Ile His Ser Thr Pro Ser Thr Val Leu Ser
         35                  40                  45
Asp Gln Ala Lys Tyr Leu Asn Pro Leu Leu Gly Glu Trp Lys His Phe
     50                  55                  60
Thr Ala Ser Leu Ala Pro Arg Met Ser Asn Gln Gly Ile Ala Val Leu
 65                  70                  75                  80
Asn Asn Phe Val Tyr Leu Ile Gly Gly Asp Asn Asn Val Gln Gly Phe
                 85                  90                  95
Arg Ala Glu Ser Arg Cys Trp Arg Tyr Asp Pro Arg His Asn Arg Trp
            100                 105                 110
Xaa Pro Asp Pro Val Pro Ala Ala Gly Ala Arg Arg Pro Val Xaa Val
            115                 120                 125
Cys Val Val Gly Arg Tyr Ile Tyr Ala Val Ala Gly Arg Asp Tyr His
            130                 135                 140
Asn Asp Leu Asn Ala Val Glu Arg Tyr Asp Pro Ala Thr Asn Ser Trp
145                 150                 155                 160
Ala Tyr Val Ala Pro Leu Lys Arg Glu Val Tyr Ala His Ala Gly Ala
                165                 170                 175
Thr Leu Glu Gly Lys Met Tyr Ile Thr Cys Gly Arg Arg Gly Glu Asp
                180                 185                 190
Tyr Leu Lys Glu Thr His Cys Tyr Asp Pro Gly Ser Asn Thr Trp His
                195                 200                 205
Thr Leu Ala Asp Gly Pro Val Arg Arg Ala Trp His Gly Met Ala Thr
            210                 215                 220
Leu Leu Asn Lys Leu Tyr Val Ile Gly Gly Ser Asn Asn Asp Ala Gly
```

```
225                     230                     235                     240
Tyr Arg Arg Asp Val His Gln Val Ala Cys Tyr Ser Cys Thr Ser Gly
                245                     250                     255
Gln Trp Ser Ser Val Cys Pro Leu Pro Ala Gly His Gly Glu Pro Gly
                260                     265                     270
Ile Ala Val Leu Asp Asn Arg Ile Tyr Val Leu Gly Gly Arg Ser His
                275                     280                     285
Asn Arg Gly Ser Arg Thr Gly Tyr Val His Ile Tyr Asp Val Glu Lys
                290                     295                     300
Asp Cys Trp Glu Glu Gly Pro Gln Leu Asp Asn Ser Ile Ser Gly Leu
305                     310                     315                     320
Ala Ala Cys Val Leu Thr Leu Pro Arg Ser Leu Leu Leu Glu Pro Pro
                325                     330                     335
Arg Gly Thr Pro Asp Arg Ser Gln Ala Asp Pro Asp Phe Ala Ser Glu
                340                     345                     350
Val Met Ser Val Ser Asp Trp Glu Glu Phe Asp Asn Ser Ser Glu Asp
                355                     360                     365
```

<210> 5373
<211> 4221
<212> DNA
<213> Homo sapiens

<400> 5373
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cggtgctggc cccggcgagg tagcttctgg aaggcgctgc tcttccggtt ctctgtcccg
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gttcctgggg ttgcacagac agaccctgta aacatgtcag ggttcagtcc ggaactcatc
120
gactacttgg aagggaaaat ctcctttgag gagttcgaac ggcggagaga agagagaaaa
180
acccgcgaga agaaaagtct tcaggaaaaa ggcaagttat cagctgaaga aaatcccgat
240
gactctgaag ttccatcatc atcaggaatt aactctacca aatcccaaga caaagatgtc
300
aatgaaggag aaacatcaga tggagtgagg aagtcagttc acaaggtctt tgcttccatg
360
cttggagaga atgaagatga tgaggaggaa gaggaagaag aggaggagga ggaggaggag
420
gaagaaacac ctgagcaacc cactgcgggc gatgtatttg tattggagat ggttctcaat
480
cgtgaaacca agaaaatgat gaaagagaaa aggcctcgga gtaaacttcc cagagctctg
540
agaggtctca tgggtgaagc caacattcgt tttgctcgag agaacgtga agaggcgata
600
ttgatgtgca tggaaatcat aagacaagct cctctggctt atgagccatt ctctactcta
660
gccatgatat atgaggacca aggtgacatg gaaaaatcat tgcagtttga gttgattgct
720
gcgcatttaa atcccagtga cacagaagaa tgggttagac tggcagaaat gtctctggaa
780
caagacaata ttaagcaggc tattttttgc tatacaaaag ctcttaaata tgaacctact
840
aatgtccgtt atctgtggga gcgatcaagc ctttatgaac agatgggtga tcataaaatg
900
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```
gccatggatg gttataggcg tattttaaac cttttgtctc catctgatgg cgaacgtttt
960
atgcagctgg ctagagatat ggcaaagagt tactatgaag ccaatgatgt tacttctgct
1020
attaacataa ttgatgaagc tttctcaaaa caccagggcc tagtctccat ggaagatgtt
1080
aacatagcag ctgaactata tatttctaac aaacagtatg acaaagcttt ggagataatt
1140
acagattttt ctggaattgt gctggaaaaa aaaacttcag aagaaggcac ctcagaagag
1200
aataaagctc ctgagaatgt tacctgcact atacctgatg gcgtgccaat agatatcaca
1260
gtgaagttga tggtctgcct tgtacatctc aacattcttg aaccacttaa tcctctcttg
1320
acaacactag tagaacagaa tcctgaagat atgggagacc tatacctaga tgttgctgaa
1380
gcttttctgg atgttggtga atataattct gcacttcccc tcctcagtgc tcttgtttgc
1440
tctgaaagat acaaccttgc agtagtttgg cttcgtcatg cagaatgttt aaaggcctta
1500
ggctatatgg agcgagctgc tgaaagctat ggcaaggtgg ttgatctggc cccactccat
1560
ttggatgcaa ggatttcact ttctacccct cagcagcagc tgggccagcc tgagaaagct
1620
ctggaagctc tggaaccaat gtatgatcca gatactttag cacaggatgc aaatgctgca
1680
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1740
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1800
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1860
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1920
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1980
ttgaaggcca tatactcctt atgtgaccta tcccgatttc aagaggctga gttgcttgta
2040
gattcctcat tggaatatta ctcattttat gatgacaggc aaaaacgcaa agaactagaa
2100
tactttggtc tgtctgctgc aattctggac aaaaatttca gaaaggcata caactatatc
2160
aggataatgg taatggaaaa tgtcaataaa ccccagctct ggaacatttt caatcaagtt
2220
accatgcact cccaagatgt acgacatcat cgcttctgtc tccgtttgat gctgaaaaac
2280
ccagaaaatc atgccctatg tgtcttaaat ggacacaatg catttgtatc tggtagtttt
2340
aagcatgcgc ttggacagta tgtgcaagcc tttcgcactc accctgacga acctctctat
2400
agcttctgta taggcctaac ctttattcat atggcatctc agaagtatgt gttacggaga
2460
catgctctta ttgtacaggg ctttttcctt cttaatcgat acctcagttt acgtgggccc
2520
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tgccaggaat cattctacaa tttgggccgt ggccttcatc agttggggct gattcatctt
2580
gcaatccact attatcagaa ggccctggag ctccctccac ttgtggtaga gggtatagaa
2640
cttgaccagt tagacttacg aagagatatt gcctacaact tgtctctcat ctatcagagc
2700
agtgggaata ccggaatggc tcaaacgctt ttgtatacct attgttctat ataaagcacc
2760
gcaactgaga acagagcaat ggcagctgct gtgtgaggac cagtgtcttc tgtctcaggg
2820
cttattattt gtaactccaa aatagaaatg acaatttcag aattacctaa caaacagtgt
2880
atttattttt aatatgtgat aatgatcttg tggtatatat gcaaaattat tcctacaaaa
2940
atttgtatat tggtctgtca ttttcctttc acattctata gtgaattgtt cccaatgttg
3000
aaatggacgt gtaagccttt gagctagctt ggagtcgaat acactatttt tcactcacac
3060
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3120
caaatacgta taaacagagg ttgcttatta ttaaaggaaa gacaaagtgg gactctttat
3180
gatgtcatga ccatgataac taagcaccta agaaaattat ttaaaatagt tatgtggtag
3240
gcagaaagac aaataattta gttttttact tttcaccagc atgtatctta gctacctaaa
3300
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3360
gctttatcta tatttgtggc tttctgatga aaaatagag aagagcttgt tcaataacag
3420
gacatggttt ccatttcaag atcacaagta atataagact gggcaagtag tacgtatgga
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3540
tctccactat ttattatatg ttcttgaatt taagttaaca gtacttttta gatgatatac
3600
tgttagctta ataacaactt tttagggaaa aataaatgct gtaattaatg tgcacatggg
3660
ttagtaacac ccagcccaat tgtgggaggg aaacaagtag aggcttagga tcaaagaaat
3720
aaaattggga cttattagaa attcttacca ctgtttctac tgtacacaaa actttctagt
3780
tgagcagaat ttgtatgcaa taagtaaata tattgtatac tccatgtgta taatttaaat
3840
gcattttatt tttataattg aggttaactg tttcacatgc ttaatttta ctttatgcca
3900
tttataggta atggtagagg taactgagat acagtaataa gttagacttg tgtgttggaa
3960
ttctgtggaa ctgagcattc tgtgctccga gtttctctct taaattagct cactggactg
4020
tggctccagt gtctactaaa tagccgtgga ggaaataagt ctccctgttt tatgcactga
4080
gactctgctg ctcctgcatg atcacagttg atcgaggagg gagtctgctc ctgaaccaac
4140
```

4553

```
ctgggccaat caggagtttc ctcccgcctt ccctgggaat ttcagacttg aaatagttca
4200
tgtagggcca gaacttcaga a
4221
```

<210> 5374
<211> 886
<212> PRT
<213> Homo sapiens

<400> 5374

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Met Ser Gly Phe Ser Pro Glu Leu Ile Asp Tyr Leu Glu Gly Lys Ile
 1               5                   10                  15
Ser Phe Glu Glu Phe Glu Arg Arg Arg Glu Glu Arg Lys Thr Arg Glu
                20                  25                  30
Lys Lys Ser Leu Gln Glu Lys Gly Lys Leu Ser Ala Glu Glu Asn Pro
                35                  40                  45
Asp Asp Ser Glu Val Pro Ser Ser Ser Gly Ile Asn Ser Thr Lys Ser
            50                  55                  60
Gln Asp Lys Asp Val Asn Glu Gly Glu Thr Ser Asp Gly Val Arg Lys
65                  70                  75                  80
Ser Val His Lys Val Phe Ala Ser Met Leu Gly Glu Asn Glu Asp Asp
                85                  90                  95
Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Thr
                100                 105                 110
Pro Glu Gln Pro Thr Ala Gly Asp Val Phe Val Leu Glu Met Val Leu
            115                 120                 125
Asn Arg Glu Thr Lys Lys Met Met Lys Glu Lys Arg Pro Arg Ser Lys
            130                 135                 140
Leu Pro Arg Ala Leu Arg Gly Leu Met Gly Glu Ala Asn Ile Arg Phe
145                 150                 155                 160
Ala Arg Gly Glu Arg Glu Glu Ala Ile Leu Met Cys Met Glu Ile Ile
                165                 170                 175
Arg Gln Ala Pro Leu Ala Tyr Glu Pro Phe Ser Thr Leu Ala Met Ile
            180                 185                 190
Tyr Glu Asp Gln Gly Asp Met Glu Lys Ser Leu Gln Phe Glu Leu Ile
            195                 200                 205
Ala Ala His Leu Asn Pro Ser Asp Thr Glu Glu Trp Val Arg Leu Ala
        210                 215                 220
Glu Met Ser Leu Glu Gln Asp Asn Ile Lys Gln Ala Ile Phe Cys Tyr
225                 230                 235                 240
Thr Lys Ala Leu Lys Tyr Glu Pro Thr Asn Val Arg Tyr Leu Trp Glu
                245                 250                 255
Arg Ser Ser Leu Tyr Glu Gln Met Gly Asp His Lys Met Ala Met Asp
            260                 265                 270
Gly Tyr Arg Arg Ile Leu Asn Leu Leu Ser Pro Ser Asp Gly Glu Arg
            275                 280                 285
Phe Met Gln Leu Ala Arg Asp Met Ala Lys Ser Tyr Tyr Glu Ala Asn
        290                 295                 300
Asp Val Thr Ser Ala Ile Asn Ile Ile Asp Glu Ala Phe Ser Lys His
305                 310                 315                 320
Gln Gly Leu Val Ser Met Glu Asp Val Asn Ile Ala Ala Glu Leu Tyr
                325                 330                 335
Ile Ser Asn Lys Gln Tyr Asp Lys Ala Leu Glu Ile Ile Thr Asp Phe
```

4554

```
                340                   345                   350
Ser Gly Ile Val Leu Glu Lys Lys Thr Ser Glu Glu Gly Thr Ser Glu
            355                   360                   365
Glu Asn Lys Ala Pro Glu Asn Val Thr Cys Thr Ile Pro Asp Gly Val
        370                   375                   380
Pro Ile Asp Ile Thr Val Lys Leu Met Val Cys Leu Val His Leu Asn
385                   390                   395                   400
Ile Leu Glu Pro Leu Asn Pro Leu Leu Thr Thr Leu Val Glu Gln Asn
                405                   410                   415
Pro Glu Asp Met Gly Asp Leu Tyr Leu Asp Val Ala Glu Ala Phe Leu
            420                   425                   430
Asp Val Gly Glu Tyr Asn Ser Ala Leu Pro Leu Leu Ser Ala Leu Val
            435                   440                   445
Cys Ser Glu Arg Tyr Asn Leu Ala Val Val Trp Leu Arg His Ala Glu
        450                   455                   460
Cys Leu Lys Ala Leu Gly Tyr Met Glu Arg Ala Ala Glu Ser Tyr Gly
465                   470                   475                   480
Lys Val Val Asp Leu Ala Pro Leu His Leu Asp Ala Arg Ile Ser Leu
            485                   490                   495
Ser Thr Leu Gln Gln Gln Leu Gly Gln Pro Glu Lys Ala Leu Glu Ala
                500                   505                   510
Leu Glu Pro Met Tyr Asp Pro Asp Thr Leu Ala Gln Asp Ala Asn Ala
            515                   520                   525
Ala Gln Gln Glu Leu Lys Leu Leu Leu His Arg Ser Thr Leu Leu Phe
        530                   535                   540
Ser Gln Gly Lys Met Tyr Gly Tyr Val Asp Thr Leu Leu Thr Met Leu
545                   550                   555                   560
Ala Met Leu Leu Lys Val Ala Met Asn Arg Ala Gln Val Cys Leu Ile
                565                   570                   575
Ser Ser Ser Lys Ser Gly Glu Arg His Leu Tyr Leu Ile Lys Val Ser
            580                   585                   590
Arg Asp Lys Ile Ser Asp Ser Asn Asp Gln Glu Ser Ala Asn Cys Asp
        595                   600                   605
Ala Lys Ala Ile Phe Ala Val Leu Thr Ser Val Leu Thr Lys Asp Asp
        610                   615                   620
Trp Trp Asn Leu Leu Leu Lys Ala Ile Tyr Ser Leu Cys Asp Leu Ser
625                   630                   635                   640
Arg Phe Gln Glu Ala Glu Leu Leu Val Asp Ser Ser Leu Glu Tyr Tyr
                645                   650                   655
Ser Phe Tyr Asp Asp Arg Gln Lys Arg Lys Glu Leu Glu Tyr Phe Gly
            660                   665                   670
Leu Ser Ala Ala Ile Leu Asp Lys Asn Phe Arg Lys Ala Tyr Asn Tyr
            675                   680                   685
Ile Arg Ile Met Val Met Glu Asn Val Asn Lys Pro Gln Leu Trp Asn
        690                   695                   700
Ile Phe Asn Gln Val Thr Met His Ser Gln Asp Val Arg His His Arg
705                   710                   715                   720
Phe Cys Leu Arg Leu Met Leu Lys Asn Pro Glu Asn His Ala Leu Cys
                725                   730                   735
Val Leu Asn Gly His Asn Ala Phe Val Ser Gly Ser Phe Lys His Ala
            740                   745                   750
Leu Gly Gln Tyr Val Gln Ala Phe Arg Thr His Pro Asp Glu Pro Leu
            755                   760                   765
Tyr Ser Phe Cys Ile Gly Leu Thr Phe Ile His Met Ala Ser Gln Lys
```

4555

```
              770                 775                 780
Tyr Val Leu Arg Arg His Ala Leu Ile Val Gln Gly Phe Ser Phe Leu
785                 790                 795                 800
Asn Arg Tyr Leu Ser Leu Arg Gly Pro Cys Gln Glu Ser Phe Tyr Asn
                805                 810                 815
Leu Gly Arg Gly Leu His Gln Leu Gly Leu Ile His Leu Ala Ile His
                820                 825                 830
Tyr Tyr Gln Lys Ala Leu Glu Leu Pro Pro Leu Val Val Glu Gly Ile
            835                 840                 845
Glu Leu Asp Gln Leu Asp Leu Arg Arg Asp Ile Ala Tyr Asn Leu Ser
        850                 855                 860
Leu Ile Tyr Gln Ser Ser Gly Asn Thr Gly Met Ala Gln Thr Leu Leu
865                 870                 875                 880
Tyr Thr Tyr Cys Ser Ile
                885
```

<210> 5375
<211> 526
<212> DNA
<213> Homo sapiens

<400> 5375
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ctctaggaac ccctccaagt ggctcggtgt cgccctcagc ttttctaaag ggatggatga
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tagggtcagg ggtagaggat ttgtgatcct tcaagtttgc agggcttccc gtgttctaag
120
tggtaacgat ctgtcttctg caaatgggtt acagcgtgct gctgccagtt ctgaatcccc
180
agtagcccgg acttgggtgc agttgaaatc catttccctt tttgccttta gtgaggcatc
240
cccctcctcc ttattaaaga agaatacatg tcgctgccat ttgccacgta tttgccatag
300
acccaggact attagcatct ttaacccacg taaccacact ggggatggct ggggaatgtt
360
catgtcccca ttttacagga gtggtgatta aggctcaaag gatggaggtg atggatcaaa
420
gtcgtctgcc aagtggtggc agcattggtt ctcagaccga ggcccgtcta cacagtgctg
480
tgcctcctcc caccacgaat gcacgtggcc cactctgccc acgcgt
526
```

<210> 5376
<211> 112
<212> PRT
<213> Homo sapiens

<400> 5376
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Met Asp Asp Arg Val Arg Gly Arg Gly Phe Val Ile Leu Gln Val Cys
1               5                   10                  15
Arg Ala Ser Arg Val Leu Ser Gly Asn Asp Leu Ser Ser Ala Asn Gly
            20                  25                  30
Leu Gln Arg Ala Ala Ala Ser Ser Glu Ser Pro Val Ala Arg Thr Trp
        35                  40                  45
Val Gln Leu Lys Ser Ile Ser Leu Phe Ala Phe Ser Glu Ala Ser Pro
```

```
        50                      55                      60
Ser Ser Leu Leu Lys Lys Asn Thr Cys Arg Cys His Leu Pro Arg Ile
65                      70                      75                      80
Cys His Arg Pro Arg Thr Ile Ser Ile Phe Asn Pro Arg Asn His Thr
                85                      90                      95
Gly Asp Gly Trp Gly Met Phe Met Ser Pro Phe Tyr Arg Ser Gly Asp
                100                     105                     110
```

```
<210> 5377
<211> 1452
<212> DNA
<213> Homo sapiens
```

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<400> 5377
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60
cttgtggcgg cctcggcagc ggtgttctcg cgcttgcgaa gcgggctccg gctcggctcg
120
cggggactgt gcacgaggtt ggcgacgccg ccccgccggg ccccagatca ggccgcagag
180
atcgggagcc gcgggagcac taaggcgcaa gggccacagc agcagccggg ctcagagggt
240
cccagctatg ccaaaaaagt tgcgctctgg cttgctgggc tgcttggagc tggtgggact
300
gtgagcgtcg tctatatctt tggaaacaac ccggtggacg aaaatggtgc caagattcct
360
gatgagttcg acaatgatcc aattctggta cagcagttgc gccggacata caaatatttc
420
aaagattata gacagatgat catcgagccc accagccctt gccttctccc agacctctg
480
caggaaccgt actaccagcc accctacacg ctcgttttgg agctcaccgg cgtcctcttg
540
catcctgagt ggtcgctggc cactggctgg aggtttaaga agcgcccagg catcgagacc
600
ttgttccagc agcttgcccc tttatatgaa attgtcatct ttacgtcaga gactggcatg
660
actgcgtttc cactcattga tagtgtggac ccccatggct tcatctccta ccgcctattc
720
cgggacgcca caagatacat ggatggacac catgtaaagg atatttcatg tctgaatcgg
780
gacccagctc gagtagtagt tgtggactgc aagaaggaag ccttccgcct gcagccctat
840
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900
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960
cactatgccc tggaggatga cccgctggcg gctttcaaac agcggcaaag ccggctagag
1020
caggaggagc agcagcgcct ggccgagctc tccaagtcca acaagcagaa cctcttcctt
1080
ggctccctca ccagccgctt gtggcctcgc tccaaacagc cctgaactct gggcctcctc
1140
aaactcagtg cctgggtcca gggccccagt gcttccagac caagacttgg gccaccactt
1200
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gtccaataaa gtacatccca gacgccacac ctgctgtgtc ccgagagtct ccagatgggg
1260
gcatcagggt gaggtccggg actcttgggt catcgtccca cagtggctga tcggctgcca
1320
agcacagtgg gggtgctttg ttggatcaga gcagattttt caccctggtc tcggaatcta
1380
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1440
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1452

<210> 5378
<211> 374
<212> PRT
<213> Homo sapiens

<400> 5378
Xaa Arg Ala Gly Ser Arg Phe Arg His Glu Ile Ser Phe Thr Trp Cys
1   5   10   15
Pro Ser Met Tyr Leu Val Ala Ala Ser Ala Ala Val Phe Ser Arg Leu
                20   25   30
Arg Ser Gly Leu Arg Leu Gly Ser Arg Gly Leu Cys Thr Arg Leu Ala
            35   40   45
Thr Pro Pro Arg Arg Ala Pro Asp Gln Ala Ala Glu Ile Gly Ser Arg
        50   55   60
Gly Ser Thr Lys Ala Gln Gly Pro Gln Gln Gln Pro Gly Ser Glu Gly
65   70   75   80
Pro Ser Tyr Ala Lys Lys Val Ala Leu Trp Leu Ala Gly Leu Leu Gly
                85   90   95
Ala Gly Gly Thr Val Ser Val Val Tyr Ile Phe Gly Asn Asn Pro Val
                100   105   110
Asp Glu Asn Gly Ala Lys Ile Pro Asp Glu Phe Asp Asn Asp Pro Ile
                115   120   125
Leu Val Gln Gln Leu Arg Arg Thr Tyr Lys Tyr Phe Lys Asp Tyr Arg
        130   135   140
Gln Met Ile Ile Glu Pro Thr Ser Pro Cys Leu Leu Pro Asp Pro Leu
145   150   155   160
Gln Glu Pro Tyr Tyr Gln Pro Pro Tyr Thr Leu Val Leu Glu Leu Thr
                165   170   175
Gly Val Leu Leu His Pro Glu Trp Ser Leu Ala Thr Gly Trp Arg Phe
                180   185   190
Lys Lys Arg Pro Gly Ile Glu Thr Leu Phe Gln Gln Leu Ala Pro Leu
            195   200   205
Tyr Glu Ile Val Ile Phe Thr Ser Glu Thr Gly Met Thr Ala Phe Pro
        210   215   220
Leu Ile Asp Ser Val Asp Pro His Gly Phe Ile Ser Tyr Arg Leu Phe
225   230   235   240
Arg Asp Ala Thr Arg Tyr Met Asp Gly His His Val Lys Asp Ile Ser
                245   250   255
Cys Leu Asn Arg Asp Pro Ala Arg Val Val Val Val Asp Cys Lys Lys
                260   265   270
Glu Ala Phe Arg Leu Gln Pro Tyr Asn Gly Val Ala Leu Arg Pro Trp
        275   280   285
Asp Gly Asn Ser Asp Asp Arg Val Leu Leu Asp Leu Ser Ala Phe Leu

```
     290                    295                    300
Lys Thr Ile Ala Leu Asn Gly Val Glu Asp Val Arg Thr Val Leu Glu
305                    310                    315                    320
His Tyr Ala Leu Glu Asp Asp Pro Leu Ala Ala Phe Lys Gln Arg Gln
                   325                    330                    335
Ser Arg Leu Glu Gln Glu Glu Gln Gln Arg Leu Ala Glu Leu Ser Lys
                   340                    345                    350
Ser Asn Lys Gln Asn Leu Phe Leu Gly Ser Leu Thr Ser Arg Leu Trp
         355                    360                    365
Pro Arg Ser Lys Gln Pro
     370
```

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<210> 5379
<211> 3213
<212> DNA
<213> Homo sapiens

<400> 5379
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caggcgccag atgagctgtc ctttgaggtg aggctgtggg gaagcagatt ccagctgggc     120
tccccacacc ccctgctcct tctgaccctt ctcttcccac ccgccctctc ccaggtggga     180
gacattgtct cggtgatcga catgccaccc acagaggatc ggagctggtg gcggggcaag     240
cgaggcttcc agctgtgcca cggcctcgtg ggaagctggc cggcctgctc cgcaccttca     300
tgcgctcccg cccttctcgg cagcggctgc ggcagcgggg aatcctgcga cagagggtgt     360
ttggctgcga tcttggcgag cacctcagca actcaggcca ggatggtgct cgctgctgc     420
tccgagttca ttgaggccca cggggtggtg gatgggatct accggctctc aggcgtgtct     480
tccaacatcc agaggcttcg gcacgagttt gacagtgaga ggatcccgga gctgtctggc     540
cctgcattcc tgcaggacat ccacagcgtg tcctccctct gcaagctcta cttccgagag     600
cttccgaacc tctgctcac ctaccagctc tatgggaagt tcagtgaggc catgtcagtg     660
cctggggagg aggagcgtct ggtgcgggtg cacgatgtca tccagcagct gccccccacca     720
cattacagga ccctggagta cctgctgagg cacctggccc gcatggcgag acacagtgcc     780
aacaccagca tgcatgcccg caacctggcc attgtctggg cacccaacct gctacggtcc     840
atggagctgg agtcagtggg aatgggtggc gcggcggcgt ccgggaagt tcgggtgcag     900
tcggtggtgg tggagtttct gctcacccat gtggacgtcc tgttcagcga caccttcacc     960
tccgccggcc tcgaccctgc aggccgctgc ctgctcccca ggcccaagtc ccttgcgggc    1020
agctgccct ccacccgcct gctgacgctg gaggaagccc aggcacgcac ccagggccgg    1080
```

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ctggggacgc ccacggagcc cacaactccc aaggccccgg cctcacctgc ggaaaggagg
1140
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1200
gcactgggcc ggggccccag tgtccctcga aagaagcccc tgccctggct gggggggcacc
1260
cgtgccccac cgcagccttc agcctggcta gatgatggtg atgagctgga cttcagccca
1320
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1380
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1620
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1680
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1740
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1800
caggagtgtg ggggcacccc acctgcttcc caatcccccct tccaccgctc gctgtctctg
1860
gaggtgggcg gggagcccct ggggacctca gggagtgggc cacctcccaa ctccctagca
1920
cacccgggtg cctgggtccc gggaccccca ccctacttac caaggcaaca aagtgatggg
1980
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2040
caggtcagtg cccagctcag ggcaggtggc gggggcaggg atgcgccaga ggcagcagcc
2100
cagtccccat gttctgtccc ctcacaggtt cctacccccg gcttcttctc cccagccccc
2160
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2220
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2280
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2340
tctggcccca cccgctcctg gagtcccttt cgctccatgc ccccgacag gctcaatgcc
2400
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2460
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2520
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2580
ggtccctcac ctgcctcttc ctcctcctct tcccctcctg cccaccccccg aagccgttca
2640
gatcccggtc ccccagtccc ccgccttccc cagaaacaac gggcaccctg gggaccccgt
2700
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4560

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acccctcata gggtgccggg tccctggggc cctcctgagc ctctcctgct ctacagggca
2760
gccccgccag cctacggaag ggggggcgag ctccaccgag ggtccttgta cagaaatgga
2820
gggcaaagag gggaggggggc tggtcccccca ccccccttacc ccactcccag ctggtccctc
2880
cactctgagg gccagacccg aagctactgc tgagcaccag ctgggagggg ccgtccttcc
2940
ttcccttcac cctcactgga tcttggccca accaaatccc ttgttttgta ttttcttgaa
3000
ccccgaccac tacccccaggt ttctaacttt gtaacttgct tctgatgtgg gtccctaacc
3060
tataatctca gcttccctac cctggactga agggtctgcc catccccccca ccaccctcca
3120
tcctgggggc cctcgcacaa atctggggtg ggagggggcta ggctgacccc atcctcctct
3180
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3213


<210> 5380
<211> 903
<212> PRT
<213> Homo sapiens


<400> 5380
Met Pro Pro Thr Glu Asp Arg Ser Trp Trp Arg Gly Lys Arg Gly Phe
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Gln Leu Cys His Gly Leu Val Gly Ser Trp Pro Ala Cys Ser Ala Pro
            20                  25                  30
Ser Cys Ala Pro Ala Leu Leu Gly Ser Gly Cys Gly Ser Gly Glu Ser
        35                  40                  45
Cys Asp Arg Gly Cys Leu Ala Ala Ile Leu Ala Ser Thr Ser Ala Thr
    50                  55                  60
Gln Ala Arg Met Val Leu Arg Cys Cys Ser Glu Phe Ile Glu Ala His
65                  70                  75                  80
Gly Val Val Asp Gly Ile Tyr Arg Leu Ser Gly Val Ser Ser Asn Ile
                85                  90                  95
Gln Arg Leu Arg His Glu Phe Asp Ser Glu Arg Ile Pro Glu Leu Ser
            100                 105                 110
Gly Pro Ala Phe Leu Gln Asp Ile His Ser Val Ser Ser Leu Cys Lys
        115                 120                 125
Leu Tyr Phe Arg Glu Leu Pro Asn Pro Leu Leu Thr Tyr Gln Leu Tyr
    130                 135                 140
Gly Lys Phe Ser Glu Ala Met Ser Val Pro Gly Glu Glu Glu Arg Leu
145                 150                 155                 160
Val Arg Val His Asp Val Ile Gln Gln Leu Pro Pro His Tyr Arg
                165                 170                 175
Thr Leu Glu Tyr Leu Leu Arg His Leu Ala Arg Met Ala Arg His Ser
                180                 185                 190
Ala Asn Thr Ser Met His Ala Arg Asn Leu Ala Ile Val Trp Ala Pro
            195                 200                 205
Asn Leu Leu Arg Ser Met Glu Leu Glu Ser Val Gly Met Gly Gly Ala
        210                 215                 220
Ala Ala Phe Arg Glu Val Arg Val Gln Ser Val Val Val Glu Phe Leu
```

4561

```
225                    230                    235                    240
Leu Thr His Val Asp Val Leu Phe Ser Asp Thr Phe Thr Ser Ala Gly
                   245                    250                    255
Leu Asp Pro Ala Gly Arg Cys Leu Leu Pro Arg Pro Lys Ser Leu Ala
               260                    265                    270
Gly Ser Cys Pro Ser Thr Arg Leu Leu Thr Leu Glu Glu Ala Gln Ala
           275                    280                    285
Arg Thr Gln Gly Arg Leu Gly Thr Pro Thr Glu Pro Thr Thr Pro Lys
       290                    295                    300
Ala Pro Ala Ser Pro Ala Glu Arg Arg Lys Gly Glu Arg Gly Glu Lys
   305                    310                    315                    320
Gln Arg Lys Pro Gly Gly Ser Ser Trp Lys Thr Phe Phe Ala Leu Gly
                   325                    330                    335
Arg Gly Pro Ser Val Pro Arg Lys Lys Pro Leu Pro Trp Leu Gly Gly
               340                    345                    350
Thr Arg Ala Pro Pro Gln Pro Ser Ala Trp Leu Asp Asp Gly Asp Glu
           355                    360                    365
Leu Asp Phe Ser Pro Pro Arg Cys Leu Glu Gly Leu Arg Gly Leu Asp
       370                    375                    380
Phe Asp Pro Leu Thr Phe Arg Cys Ser Ser Pro Thr Pro Gly Asp Pro
   385                    390                    395                    400
Ala Pro Pro Ala Ser Pro Ala Pro Ala Pro Ala Ser Ala Phe Pro
                   405                    410                    415
Pro Arg Val Thr Pro Gln Ala Ile Ser Pro Arg Gly Pro Thr Ser Pro
               420                    425                    430
Ala Ser Pro Ala Ala Leu Asp Ile Ser Glu Pro Leu Ala Val Ser Val
           435                    440                    445
Pro Pro Ala Val Leu Glu Leu Leu Gly Ala Gly Gly Ala Pro Ala Ser
       450                    455                    460
Ala Thr Pro Thr Pro Ala Leu Ser Pro Gly Arg Ser Leu Arg Pro His
   465                    470                    475                    480
Leu Ile Pro Leu Leu Leu Arg Gly Ala Glu Ala Pro Leu Thr Asp Ala
                   485                    490                    495
Cys Gln Gln Glu Met Cys Ser Lys Leu Arg Gly Ala Gln Gly Pro Leu
                   500                    505                    510
Ala Arg Leu Met Ala Leu Ala Leu Ala Glu Arg Ala Gln Gln Val Ala
       515                    520                    525
Glu Gln Gln Ser Gln Gln Glu Cys Gly Gly Thr Pro Pro Ala Ser Gln
   530                    535                    540
Ser Pro Phe His Arg Ser Leu Ser Leu Glu Val Gly Gly Glu Pro Leu
   545                    550                    555                    560
Gly Thr Ser Gly Ser Gly Pro Pro Pro Asn Ser Leu Ala His Pro Gly
               565                    570                    575
Ala Trp Val Pro Gly Pro Pro Pro Tyr Leu Pro Arg Gln Gln Ser Asp
               580                    585                    590
Gly Ser Leu Leu Arg Ser Gln Arg Pro Met Gly Thr Ser Arg Arg Gly
           595                    600                    605
Leu Arg Gly Pro Ala Gln Val Ser Ala Gln Leu Arg Ala Gly Gly Gly
       610                    615                    620
Gly Arg Asp Ala Pro Glu Ala Ala Ala Gln Ser Pro Cys Ser Val Pro
   625                    630                    635                    640
Ser Gln Val Pro Thr Pro Gly Phe Phe Ser Pro Ala Pro Arg Glu Cys
                   645                    650                    655
Leu Pro Pro Phe Leu Gly Val Pro Lys Pro Gly Leu Tyr Pro Leu Gly
```

4562

```
               660                    665                  670
Pro Pro Ser Phe Gln Pro Ser Ser Pro Ala Pro Val Trp Arg Ser Ser
           675                680                685
Leu Gly Pro Pro Ala Pro Leu Asp Arg Gly Glu Asn Leu Tyr Tyr Glu
       690                695                700
Ile Gly Ala Ser Glu Gly Ser Pro Tyr Ser Gly Pro Thr Arg Ser Trp
705                710                715                720
Ser Pro Phe Arg Ser Met Pro Pro Asp Arg Leu Asn Ala Ser Tyr Gly
               725                730                735
Met Leu Gly Gln Ser Pro Pro Leu His Arg Ser Pro Asp Phe Leu Leu
           740                745                750
Ser Tyr Pro Pro Ala Pro Ser Cys Phe Pro Pro Asp His Leu Gly Tyr
       755                760                765
Ser Ala Pro Gln His Pro Ala Arg Arg Pro Thr Pro Pro Glu Pro Leu
       770                775                780
Tyr Val Asn Leu Ala Leu Gly Pro Arg Gly Pro Ser Pro Ala Ser Ser
785                790                795                800
Ser Ser Ser Ser Pro Pro Ala His Pro Arg Ser Arg Ser Asp Pro Gly
               805                810                815
Pro Pro Val Pro Arg Leu Pro Gln Lys Gln Arg Ala Pro Trp Gly Pro
           820                825                830
Arg Thr Pro His Arg Val Pro Gly Pro Trp Gly Pro Pro Glu Pro Leu
           835                840                845
Leu Leu Tyr Arg Ala Ala Pro Pro Ala Tyr Gly Arg Gly Gly Glu Leu
       850                855                860
His Arg Gly Ser Leu Tyr Arg Asn Gly Gly Gln Arg Gly Glu Gly Ala
865                870                875                880
Gly Pro Pro Pro Pro Tyr Pro Thr Pro Ser Trp Ser Leu His Ser Glu
               885                890                895
Gly Gln Thr Arg Ser Tyr Cys
               900
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<210> 5381
<211> 1576
<212> DNA
<213> Homo sapiens
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<400> 5381
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120
gccaggacca tctatggcga ccaccagcga tttgtggacg cctacttcaa ggcctaccca
180
ggctattact tcactggaga cggggcttac cgaactgagg gcggctatta ccagatcaca
240
gggcggatgg atgatgtcat caacatcagt ggccaccggc tggggaccgc agagattgag
300
gacgccatcg ccgaccaccc tgcagtacca gaaagtgctg tcattggcta cccccacgac
360
atcaaaggag aagctgcctt tgccttcatt gtggtgaaag atagtgcggg tgactcagat
420
gtggtggtgc aggagctcaa gtccatggtg gccaccaaga tcgccaaata tgctgtgcct
480
```

```
gatgagatcc tggtggtgaa acgtcttcca aaaaccaggt ctgggaaggt catgcggcgg
540
ctcctgagga agatcatcac tagtgaggcc caggagctgg gagacactac caccttggag
600
gaccccagca tcatcgcaga gatcctgagt gtctaccaga agtgcaagga caagcaggct
660
gctgctaagt gagctggcac cttgtggggc tcttgggatg ggcgggcacc caagccctgg
720
cttgtccttc ccagaaggta cccctgaggt tggcgtcttc ctacgtccca gaagcagccc
780
ccacccaca catgacccac accgccctca cgtgaagctg ggctgagagc cctttctccc
840
atccattgga ggtcccagga gtgtcaccca tggagaggct atgcgacatg gctagggctg
900
gttctgccat ctgagtttgg tttcctggaa tgaaaaggca ttgccatctc cattcctctg
960
ccctcttgag ccagcacagg aaggtgaggc cctgggatag cgcgcctgct cagataacac
1020
agagctagtt agctagtagc aaccgtgttt tctccagatc tgtctagata caaaggtcag
1080
aaatcttatt tttatacttt tatattgtgg aagaacagca tgcaacactc acatgtagtg
1140
tgtggattta cttgaacatg ttcttttttaa catgtagtta tgaaaatctc ctttttttgcc
1200
tctactggtg aggaaacatg aggatcagag gccacatttt taattattgt tagtgtattt
1260
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1320
gcctccggca tcttttcctg gtgagtgttt ctcctgtgct tggttgtgta taatggagct
1380
aactcctaag cggtgggggtg aatgtggccg ccttagttct gaagctactc cagttatgtt
1440
ctgtttcttc aagctgtgat ccagaaagat ttttgtgccc cccagatgct tcttgatagg
1500
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1560
ttgttagagc actaac
1576


<210> 5382
<211> 223
<212> PRT
<213> Homo sapiens

<400> 5382
Xaa Met Ala Met Arg Pro Phe Phe Gly Ile Val Pro Val Leu Met Asp
1               5                   10                  15
Glu Lys Gly Ser Val Val Glu Gly Ser Asn Val Ser Gly Ala Leu Cys
            20                  25                  30
Ile Ser Gln Ala Trp Pro Gly Met Ala Arg Thr Ile Tyr Gly Asp His
        35                  40                  45
Gln Arg Phe Val Asp Ala Tyr Phe Lys Ala Tyr Pro Gly Tyr Tyr Phe
    50                  55                  60
Thr Gly Asp Gly Ala Tyr Arg Thr Glu Gly Gly Tyr Tyr Gln Ile Thr
```

```
65                    70                    75                    80
Gly Arg Met Asp Asp Val Ile Asn Ile Ser Gly His Arg Leu Gly Thr
                          85                    90                    95
Ala Glu Ile Glu Asp Ala Ile Ala Asp His Pro Ala Val Pro Glu Ser
            100                   105                   110
Ala Val Ile Gly Tyr Pro His Asp Ile Lys Gly Glu Ala Ala Phe Ala
        115                   120                   125
Phe Ile Val Val Lys Asp Ser Ala Gly Asp Ser Asp Val Val Val Gln
    130                   135                   140
Glu Leu Lys Ser Met Val Ala Thr Lys Ile Ala Lys Tyr Ala Val Pro
145                   150                   155                   160
Asp Glu Ile Leu Val Val Lys Arg Leu Pro Lys Thr Arg Ser Gly Lys
                  165                   170                   175
Val Met Arg Arg Leu Leu Arg Lys Ile Ile Thr Ser Glu Ala Gln Glu
            180                   185                   190
Leu Gly Asp Thr Thr Thr Leu Glu Asp Pro Ser Ile Ile Ala Glu Ile
        195                   200                   205
Leu Ser Val Tyr Gln Lys Cys Lys Asp Lys Gln Ala Ala Ala Lys
    210                   215                   220
```

<210> 5383
<211> 2027
<212> DNA
<213> Homo sapiens

<400> 5383
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120
taactcagta catctccagt ggccccattt ccaaagaagg ttgcgttctg gggttctggg
180
ggctgagact ccagcatatg aatttggggg ggacatgatg ggacccagcg cagtggcctt
240
ctcctccgag cagcgccggg caggccaggg catgacccac acctgtttgt ttcccttcag
300
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360
gagtacatcg ccagggccgg cgcctgggcc atgttcctgg accggcccca gcagtggctc
420
cagctcgtcc tcctcccccc ggccctgttc atcccgagca cagagaatga ggagcagcgg
480
ctagcctctg ccagagctgt ccccaggaat gtccagccgt atgtggtgta cgaggaggtc
540
accaacgtct ggatcaatgt tcatgacatc ttctatccct tcccccaatc agagggagag
600
gacgagctct gctttctccg cgccaatgaa tgcaagaccg gcttctgcca tttgtacaaa
660
gtcaccgccg ttttaaaatc ccagggctac gattggagtg agcccttcag ccccggggaa
720
ggtgagcaga gcctgacgaa tgctatctgg gtcaatgagg agaccaagct ggtgtacttc
780
cagggcacca aggacacgcc gctggagcac acctctacg tggtcagcta tgaggcggcc
840

4565
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ggcgagatcg tacgcctcac cacgcccggc ttctcccata gctgctccat gagccagaac
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960
aagctgagcg gccccgacga cgaccccctg cacaagcagc cccgcttctg ggctagcatg
1020
atggaggcag ccaagatctt ccatttccac acgcgctcgg atgtgcggct ctacggcatg
1080
atctacaagc cccacgcctt gcagccaggg aagaagcacc ccaccgtcct ctttgtatat
1140
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1200
aacacactgg cctccctggg ctacgccgtg gttgtgattg acggcagggg ctcctgtcag
1260
cgagggcttc ggttcgaagg ggccctgaaa aaccaaatgg ccaggtggga gatcgaggac
1320
caggtggagg gcctgcagtt cgtggccgag aagtatggct tcatcgacct gagccgagtt
1380
gccatccatg gctggtccta cgggggcttc ctctcgctca tggggctaat ccacaagccc
1440
caggtgttca aggtggccat cgcgggtgcc ccggtcaccg tctggatggc ctacgacaca
1500
gggtacactg agcgctacat ggacgtccct gagaacaacc agcacggcta tgaggcgggt
1560
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1620
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1680
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1740
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1800
ctgcactttc tacaggaata cctctgagcc tgcccaccgg gagccgccac atcacagcac
1860
aagtggctgc agcctccgcg gggaaccagg cgggagggac tgagtggccc gcgggccccca
1920
gtgaggcact ttgtcccgcc cagcgctggc cagccccgag gagccgctgc cttcaccgcc
1980
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2027

<210> 5384
<211> 508
<212> PRT
<213> Homo sapiens

<400> 5384
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1               5                   10                  15
Phe Pro Lys Val Glu Tyr Ile Ala Arg Ala Gly Ala Trp Ala Met Phe
            20                  25                  30
Leu Asp Arg Pro Gln Gln Trp Leu Gln Leu Val Leu Leu Pro Pro Ala
        35                  40                  45
Leu Phe Ile Pro Ser Thr Glu Asn Glu Glu Gln Arg Leu Ala Ser Ala
```

```
      50                   55                   60
Arg Ala Val Pro Arg Asn Val Gln Pro Tyr Val Val Tyr Glu Glu Val
65                   70                   75                   80
Thr Asn Val Trp Ile Asn Val His Asp Ile Phe Tyr Pro Phe Pro Gln
              85                   90                   95
Ser Glu Gly Glu Asp Glu Leu Cys Phe Leu Arg Ala Asn Glu Cys Lys
         100                  105                  110
Thr Gly Phe Cys His Leu Tyr Lys Val Thr Ala Val Leu Lys Ser Gln
         115                  120                  125
Gly Tyr Asp Trp Ser Glu Pro Phe Ser Pro Gly Glu Gly Glu Gln Ser
         130                  135                  140
Leu Thr Asn Ala Ile Trp Val Asn Glu Glu Thr Lys Leu Val Tyr Phe
145                  150                  155                  160
Gln Gly Thr Lys Asp Thr Pro Leu Glu His His Leu Tyr Val Val Ser
              165                  170                  175
Tyr Glu Ala Ala Gly Glu Ile Val Arg Leu Thr Thr Pro Gly Phe Ser
         180                  185                  190
His Ser Cys Ser Met Ser Gln Asn Phe Asp Met Phe Val Ser His Tyr
         195                  200                  205
Ser Ser Val Ser Thr Pro Pro Cys Val His Val Tyr Lys Leu Ser Gly
         210                  215                  220
Pro Asp Asp Asp Pro Leu His Lys Gln Pro Arg Phe Trp Ala Ser Met
225                  230                  235                  240
Met Glu Ala Ala Lys Ile Phe His Phe His Thr Arg Ser Asp Val Arg
              245                  250                  255
Leu Tyr Gly Met Ile Tyr Lys Pro His Ala Leu Gln Pro Gly Lys Lys
              260                  265                  270
His Pro Thr Val Leu Phe Val Tyr Gly Gly Pro Gln Val Gln Leu Val
         275                  280                  285
Asn Asn Ser Phe Lys Gly Ile Lys Tyr Leu Arg Leu Asn Thr Leu Ala
         290                  295                  300
Ser Leu Gly Tyr Ala Val Val Val Ile Asp Gly Arg Gly Ser Cys Gln
305                  310                  315                  320
Arg Gly Leu Arg Phe Glu Gly Ala Leu Lys Asn Gln Met Gly Gln Val
              325                  330                  335
Glu Ile Glu Asp Gln Val Glu Gly Leu Gln Phe Val Ala Glu Lys Tyr
         340                  345                  350
Gly Phe Ile Asp Leu Ser Arg Val Ala Ile His Gly Trp Ser Tyr Gly
         355                  360                  365
Gly Phe Leu Ser Leu Met Gly Leu Ile His Lys Pro Gln Val Phe Lys
         370                  375                  380
Val Ala Ile Ala Gly Ala Pro Val Thr Val Trp Met Ala Tyr Asp Thr
385                  390                  395                  400
Gly Tyr Thr Glu Arg Tyr Met Asp Val Pro Glu Asn Asn Gln His Gly
              405                  410                  415
Tyr Glu Ala Gly Ser Val Ala Leu His Val Glu Lys Leu Pro Asn Glu
         420                  425                  430
Pro Asn Arg Leu Leu Ile Leu His Gly Phe Leu Asp Glu Asn Val His
         435                  440                  445
Phe Phe His Thr Asn Phe Leu Val Ser Gln Leu Ile Arg Ala Gly Lys
         450                  455                  460
Pro Tyr Gln Leu Gln Val Ala Leu Pro Pro Val Ser Pro Gln Ile Tyr
465                  470                  475                  480
Pro Asn Glu Arg His Ser Ile Arg Cys Pro Glu Ser Gly Glu His Tyr
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                          485                    490                   495
       Glu Val Thr Leu Leu His Phe Leu Gln Glu Tyr Leu
                      500                    505
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<210> 5385
<211> 314
<212> DNA
<213> Homo sapiens

<400> 5385
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120
cctccccggg cccagccgct gggcagaggg ctgcatgctg gctggctggc caggctgggg
180
cagcctggcc tcctcggccc ctacgctgca cccaccttcc acttcctgga gatgcaccca
240
catctccagg aaaattgttt cagaaaatgc ctacaacaca gcagagagtg aacaaacag
300
ggtcccaacg catg
314
```

<210> 5386
<211> 100
<212> PRT
<213> Homo sapiens

<400> 5386
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       Met Gly Thr Pro Ala Gly Thr Gly Trp His Phe Phe Phe Pro Cys Ser
        1               5                  10                  15
       Thr Trp Ser Ile Cys Cys Ser Trp Asn Arg Lys Glu Arg Ser Lys Lys
                      20                  25                  30
       Ser Val Pro Ser Pro Pro Arg Ala Gln Pro Leu Gly Arg Gly Leu His
                      35                  40                  45
       Ala Gly Trp Leu Ala Arg Leu Gly Gln Pro Gly Leu Leu Gly Pro Tyr
            50                  55                  60
       Ala Ala Pro Thr Phe His Phe Leu Glu Met His Pro His Leu Gln Glu
       65                  70                  75                  80
       Asn Cys Phe Arg Lys Cys Leu Gln His Ser Arg Glu Trp Asn Lys Gln
                          85                  90                  95
       Gly Pro Asn Ala
                      100
```

<210> 5387
<211> 375
<212> DNA
<213> Homo sapiens

<400> 5387
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accgccacgc accagtccat gggcaactgg tccatgttca cctggtgctt ctgcttctcc
120
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atgaccctga tcatcctcat cgtggagctg tgcgggctcc aggcccgctt ccccctgtct
180
tggcgcaact tccccatcac cttcgcctgc tatgcggccc tcttctgcct ctcggcctcc
240
atcatctacc ccaccaccta tgtccagttc ctgtcccacg gccgttcgcg ggaccacgcc
300
atcgccgcca ccttcttctc ctgcatcgcg tgtgtggctt acgccaccga aatggcctgg
360
acccgggccc gggcc
375

<210> 5388
<211> 125
<212> PRT
<213> Homo sapiens

<400> 5388
Xaa Asp Ser Pro Arg Phe Ser Arg Met Ala Met Ala Ala Arg Met Lys
1   5   10   15
Gln Met Ala Tyr Thr Ala Thr His Gln Ser Met Gly Asn Trp Ser Met
            20   25   30
Phe Thr Trp Cys Phe Cys Phe Ser Met Thr Leu Ile Ile Leu Ile Val
        35   40   45
Glu Leu Cys Gly Leu Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe
    50   55   60
Pro Ile Thr Phe Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser
65   70   75   80
Ile Ile Tyr Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser
                85   90   95
Arg Asp His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val
            100   105   110
Ala Tyr Ala Thr Glu Met Ala Trp Thr Arg Ala Arg Ala
        115   120   125

<210> 5389
<211> 1711
<212> DNA
<213> Homo sapiens

<400> 5389
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agcttgcggg cgtgttctcg cggttccggg cctcaaggcg acggaaacga aaggcgagcg
120
aagcgcggag gatccggcga gaagaagcgt cagggagcct cggcggtgtc cccggggtcc
180
gccgaagcca cccggccgcc ggctggggcc cggggtggtg aggaagtgct ccgaggcctc
240
gccgaggcct agcgccggct ttgtgtccga ggcggcggcg gcggcggggg gaggcggagc
300
cggggcggc ctgcgggaag gcctctcctc cgccgaccgc gcgttttcgg cctaggccgc
360
ggggccgctc gtggcctccg gggagcaggc gccaggggtt tgtgtgcggt gggggcctgg
420

gcctgggcct ggggaagctg acgccggtcg tccggaagcc aggaggaggc gtgaggccgc
480
tcgtggactc cgggcctagg ccctctcccc tcaaccttct cccggggcct gggtcacccc
540
aatccacgga gagagagacc cgccgggagg tgcggccgcg ctatggaccc ctgacccccg
600
tggggtcgct cggactctta acgtgtggac tgaccgctac tgactgcacc gccaatcccc
660
ccgtctctgc cggcccctta gcatgagcga gggggaccca gccgggtgac attgtgcccg
720
ttggcggatt ctcgatttcc cctcttcccc gtcctcgtcc tcctcctccc ccatgaagtg
780
attctgagta tcggggggtc tctggattat tgttctgacg aacccctgct tgtggttggg
840
gggtatttaa tctgaggcct tagggtcctt cggtgtcttt gagtgttttg tgtgtacata
900
tttttgctctt aaagtttata aatatacgta tattgagagt gtccacgtct cctcgctgaa
960
ccttaggaat cccttggcac catgtcctgt gtgcattata aattttcctc taaactcaac
1020
tatgataccg tcacctttga tgggctccac atctccctct gcgacttaaa gaagcagatt
1080
atggggagag agaagctgaa agctgccgac tgcgacctgc agatcaccaa tgcgcagacg
1140
aaagaagaat atactgatga taatgctctg attcctaaga attcttctgt aattgttaga
1200
agaattccta ttggaggtgt taaatctaca agcaagacat atgttataag tcgaactgaa
1260
ccagcgatgg caactacaaa agcagtatgt aaaaacacaa tctcacactt tttctacaca
1320
ttgcttttac ctttataatg tagcagtgaa gtaaatcatt ttagaactta atatccaact
1380
gatcatagta catattgtaa ataaaatgta ttttgatgac agctcagttg aatatggata
1440
atatgtggca tcacttgcac acttattttg tagaaatggg taatttgtgc ccgtaacact
1500
gtttcatatt aaatatgata gcattatccc tgtatgacac tgtgttgtac agttaatgta
1560
tgatcctttt tagatcgttt aggttttaca ctaaggaaca tgatgacatg ttctacattt
1620
gtctgtctat agttagtatt ttgtatgtat gtacaggctg ttgtgtgctt tttgtttctt
1680
gcaataaaaa atgtttggag tgtatatttt g
1711

<210> 5390
<211> 118
<212> PRT
<213> Homo sapiens

<400> 5390
Met Ser Cys Val His Tyr Lys Phe Ser Ser Lys Leu Asn Tyr Asp Thr
  1   5   10   15
Val Thr Phe Asp Gly Leu His Ile Ser Leu Cys Asp Leu Lys Lys Gln

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                20                    25                    30
Ile Met Gly Arg Glu Lys Leu Lys Ala Ala Asp Cys Asp Leu Gln Ile
        35                    40                    45
Thr Asn Ala Gln Thr Lys Glu Glu Tyr Thr Asp Asp Asn Ala Leu Ile
    50                    55                    60
Pro Lys Asn Ser Ser Val Ile Val Arg Arg Ile Pro Ile Gly Gly Val
65                    70                    75                    80
Lys Ser Thr Ser Lys Thr Tyr Val Ile Ser Arg Thr Glu Pro Ala Met
                85                    90                    95
Ala Thr Thr Lys Ala Val Cys Lys Asn Thr Ile Ser His Phe Phe Tyr
            100                   105                   110
Thr Leu Leu Leu Pro Leu
        115
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<210> 5391
<211> 797
<212> DNA
<213> Homo sapiens

<400> 5391
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tgcattcagt ctaaattctc ttttccacat accaaatgaa caaatttatt aaaggtgaat
120
aaacagtaca aattattatt attattatta ttgagacagg gtcttgctct gtcattcagg
180
ctaaagtgca gtggcacaat caagggtcac tgcaacctca gcctcaacct cctgggctca
240
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300
cagctacttt ttttattctt tgtagagaca gggtctcact acattaccct ggctggtctc
360
aaacttctgg gctcaaatga tcctcccgcc tcagcctccc aaaactctgg catgagccac
420
tatgctcagc ctcagatatg gattttatt aagctttttt tttccctacc aattgccagc
480
caatttattt taaaaataca ggtttctggc ttcttttgca aagtcaaatc tggcaacact
540
ggaccaacat ttccaccagg ctgcaatggt ctgaaactga cttgagccca tgtgcactgg
600
aagggccctg cctctggccc ctcctggact tgtggctgcc ctttagatgg gaatccactt
660
ttctgttcac cgcactctct accgctctct attgcacctg acccagctgc tatataggat
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780
gatgtagggg gccacag
797

<210> 5392
<211> 55
<212> PRT
<213> Homo sapiens
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<400> 5392
Thr Asn Leu Leu Lys Val Asn Lys Gln Tyr Lys Leu Leu Leu Leu Leu
 1               5                  10                  15
Leu Leu Arg Gln Gly Leu Ala Leu Ser Phe Arg Leu Lys Cys Ser Gly
            20                  25                  30
Thr Ile Lys Gly His Cys Asn Leu Ser Leu Asn Leu Leu Gly Ser Ser
            35                  40                  45
Asn Pro Pro Ala Ser Ala Ser
        50                  55


<210> 5393
<211> 4837
<212> DNA
<213> Homo sapiens


<400> 5393
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ttcctctacc gcaagacaga cttctatcgc ttgctgcgcc acccatcgga ccgcatgggc
180
ttcccgcccg gggccgcgca ggccttggtg ctgcaggtat tcaaaacctt tgaccacatg
240
gcccgtcagg atgatgagaa gagaaggcag gaacttgaag agaaaatcag aagaaaggaa
300
gaggaagagg ccaagactgt gtcagctgct gcagctgaga aggagccagt cccagttcca
360
gtccaggaaa tagagattga ctccaccaca gaattggatg ggcatcagga agtagagaaa
420
gtgcagcctc caggccctgt gaaggaaatg gcccatggtt cacaggaggc agaagctcca
480
ggagcagttg ctggtgctgc tgaagtccct agggaaccac caattcttcc caggattcag
540
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600
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660
aagcaggtct cagtggccct tagcagcagc tccattcgtg tggccatgct ggaggaaaat
720
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780
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840
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900
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960
caccagaagc tgcagggcaa gccacagagc catgagctga agtccatga gatgctgaag
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aaggggtggg atgctgaagg ttctcccttc cgaggccagc gattcgaccc tgccatgttc
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1140
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2760
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4573

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4380

4574

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4620
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4837

<210> 5394
<211> 354
<212> PRT
<213> Homo sapiens

<400> 5394
Leu Tyr Asp Gln Ala Leu Leu Gly Ile Leu Gln His Val Gly Asn Val
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Gln Asp Phe Leu Arg Val Leu Phe Gly Phe Leu Tyr Arg Lys Thr Asp
            20   25   30
Phe Tyr Arg Leu Leu Arg His Pro Ser Asp Arg Met Gly Phe Pro Pro
        35   40   45
Gly Ala Ala Gln Ala Leu Val Leu Gln Val Phe Lys Thr Phe Asp His
    50   55   60
Met Ala Arg Gln Asp Asp Glu Lys Arg Arg Gln Glu Leu Glu Glu Lys
65   70   75   80
Ile Arg Arg Lys Glu Glu Glu Ala Lys Thr Val Ser Ala Ala Ala
                85   90   95
Ala Glu Lys Glu Pro Val Pro Val Pro Val Gln Glu Ile Glu Ile Asp
            100   105   110
Ser Thr Thr Glu Leu Asp Gly His Gln Glu Val Glu Lys Val Gln Pro
        115   120   125
Pro Gly Pro Val Lys Glu Met Ala His Gly Ser Gln Glu Ala Glu Ala
    130   135   140
Pro Gly Ala Val Ala Gly Ala Ala Glu Val Pro Arg Glu Pro Pro Ile
145   150   155   160
Leu Pro Arg Ile Gln Glu Gln Phe Gln Lys Asn Pro Asp Ser Tyr Asn
                165   170   175
Gly Ala Val Arg Glu Asn Tyr Thr Trp Ser Gln Asp Tyr Thr Asp Leu
            180   185   190
Glu Val Arg Val Pro Val Pro Lys His Val Val Lys Gly Lys Gln Val
        195   200   205
Ser Val Ala Leu Ser Ser Ser Ile Arg Val Ala Met Leu Glu Glu
    210   215   220
Asn Gly Glu Arg Val Leu Met Glu Gly Lys Leu Thr His Lys Ile Asn
225   230   235   240
Thr Glu Ser Ser Leu Trp Ser Leu Glu Pro Gly Lys Cys Val Leu Val

4575

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                    245                 250                 255
Asn Leu Ser Lys Val Gly Glu Tyr Trp Trp Asn Ala Ile Leu Glu Gly
            260                 265                 270
Glu Glu Pro Ile Asp Ile Asp Lys Ile Asn Lys Glu Arg Ser Met Ala
            275                 280                 285
Thr Val Asp Glu Glu Glu Gln Ala Val Leu Asp Arg Leu Thr Phe Asp
        290                 295                 300
Tyr His Gln Lys Leu Gln Gly Lys Pro Gln Ser His Glu Leu Lys Val
305                 310                 315                 320
His Glu Met Leu Lys Lys Gly Trp Asp Ala Glu Gly Ser Pro Phe Arg
                325                 330                 335
Gly Gln Arg Phe Asp Pro Ala Met Phe Asn Ile Ser Pro Gly Ala Val
                340                 345                 350
Gln Phe
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<210> 5395
<211> 3711
<212> DNA
<213> Homo sapiens

<400> 5395
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120
atttcagtgt ctgtagacag gatggaatca tctccattta atagacggca atggacctca
180
ctatcattga gggtaacagc caaagaactt tctcttgtca acaagaacaa gtcatcggct
240
attgtggaaa tattctccaa gtaccagaaa gcagctgaag aaacaaacat ggagaagaag
300
agaagtaaca ccgaaaatct ctcccagcac tttagaaagg ggaccctgac tgtgttaaag
360
aagaagtggg agaacccagg gctgggagca gagtctcaca cagactctct acggaacagc
420
agcactgaga ttaggcacag agcagaccat cctcctgctg aagtgacaag ccacgctgct
480
tctggagcca aagctgacca agaagaacaa atccacccca gatctagact caggtcacct
540
cctgaagccc tcgttcaggg tcgatatccc cacatcaagg acggtgagga tcttaaagac
600
cactcaacag aaagtaaaaa aatggaaaat tgtctaggag aatccaggca tgaagtagaa
660
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720
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840
ctggaaatag gcccaggtca gttgtcatct tctacatttg actcggagaa aaatgagagt
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960
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taccaggcag ctgtgtccaa acaaagcagc tcaaccaact atacaaatga gctgaaagcc
1020
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1080
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1140
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1200
caacagcctg tccatcccaa gccactaagt ccagattcca gagcctccag tctttctgaa
1260
agttctcctc ccaaagcaat gaagaagttt caggcacctg caagagagac ctgcgtggaa
1320
tgtcagaaga cagtctatcc aatggagcgt ctcttggcca accagcaggt gtttcacatc
1380
agctgcttcc gttgctccta ttgcaacaac aaactcagtc taggaacata tgcatcttta
1440
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1500
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1560
gagattttgg agagaccagc ccagcttgca aatgcaaggg agacccctca cagcccaggg
1620
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1680
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1800
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1920
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2040
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2100
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2160
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2220
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2280
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2340
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2400
gatgaggatg aggatgaaga gtgacaaatt gcaatgatgc tgggccttaa attcatgtta
2460
gtgttagcga gccactgccc tttgtcaaaa tgtgatgcac ataagcaggt atcccagcat
2520
gaaatgtaat ttacttggaa gtaactttgg aaaagaattc cttcttaaaa tcaaaaacaa
2580
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2640
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2700
tgataatagc ccagattcta ctgtattccc aaaaggcaat attaaggtag atagatgatt
2760
agtagtatat tgttacacac tattttggaa ttagagaaca tacagaagga atttaggggc
2820
ttaaacatta cgactgaatg cactttagta taaagggcac agtttgtata tttttaaatg
2880
aataccaatt taattttta gtatttacct gttaagagat tatttagtct ttaaattttt
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3000
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3060
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3120
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3240
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3300
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3420
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3540
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3600
ttagctttaa tattttttag agatgtaaaa cattctgctt tcttagtctt acctagtctg
3660
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3711


<210> 5396
<211> 760
<212> PRT
<213> Homo sapiens


<400> 5396
Met Glu Ser Ser Pro Phe Asn Arg Arg Gln Trp Thr Ser Leu Ser Leu
1               5                   10                  15
Arg Val Thr Ala Lys Glu Leu Ser Leu Val Asn Lys Asn Lys Ser Ser
            20                  25                  30
Ala Ile Val Glu Ile Phe Ser Lys Tyr Gln Lys Ala Ala Glu Glu Thr
        35                  40                  45
Asn Met Glu Lys Lys Arg Ser Asn Thr Glu Asn Leu Ser Gln His Phe
    50                  55                  60
Arg Lys Gly Thr Leu Thr Val Leu Lys Lys Lys Trp Glu Asn Pro Gly
```

```
65                      70                      75                      80
Leu Gly Ala Glu Ser His Thr Asp Ser Leu Arg Asn Ser Ser Thr Glu
                85                      90                      95
Ile Arg His Arg Ala Asp His Pro Pro Ala Glu Val Thr Ser His Ala
                100                     105                     110
Ala Ser Gly Ala Lys Ala Asp Gln Glu Glu Gln Ile His Pro Arg Ser
                115                     120                     125
Arg Leu Arg Ser Pro Pro Glu Ala Leu Val Gln Gly Arg Tyr Pro His
        130                     135                     140
Ile Lys Asp Gly Glu Asp Leu Lys Asp His Ser Thr Glu Ser Lys Lys
145                     150                     155                     160
Met Glu Asn Cys Leu Gly Glu Ser Arg His Glu Val Glu Lys Ser Glu
                165                     170                     175
Ile Ser Glu Asn Thr Asp Ala Ser Gly Lys Ile Glu Lys Tyr Asn Val
                180                     185                     190
Pro Leu Asn Arg Leu Lys Met Met Phe Glu Lys Gly Glu Pro Thr Gln
        195                     200                     205
Thr Lys Ile Leu Arg Ala Gln Ser Arg Ser Ala Ser Gly Arg Lys Ile
        210                     215                     220
Ser Glu Asn Ser Tyr Ser Leu Asp Asp Leu Glu Ile Gly Pro Gly Gln
225                     230                     235                     240
Leu Ser Ser Ser Thr Phe Asp Ser Glu Lys Asn Glu Ser Arg Arg Asn
                245                     250                     255
Leu Glu Leu Pro Arg Leu Ser Glu Thr Ser Ile Lys Asp Arg Met Ala
        260                     265                     270
Lys Tyr Gln Ala Ala Val Ser Lys Gln Ser Ser Ser Thr Asn Tyr Thr
        275                     280                     285
Asn Glu Leu Lys Ala Ser Gly Gly Glu Ile Lys Ile His Lys Met Glu
        290                     295                     300
Gln Lys Glu Asn Val Pro Pro Gly Pro Glu Val Cys Ile Thr His Gln
305                     310                     315                     320
Glu Gly Glu Lys Ile Ser Ala Asn Glu Asn Ser Leu Ala Val Arg Ser
                325                     330                     335
Thr Pro Ala Glu Asp Asp Ser Pro Gly Asp Ser Gln Val Lys Ser Glu
                340                     345                     350
Val Gln Gln Pro Val His Pro Lys Pro Leu Ser Pro Asp Ser Arg Ala
        355                     360                     365
Ser Ser Leu Ser Glu Ser Ser Pro Pro Lys Ala Met Lys Lys Phe Gln
        370                     375                     380
Ala Pro Ala Arg Glu Thr Cys Val Glu Cys Gln Lys Thr Val Tyr Pro
385                     390                     395                     400
Met Glu Arg Leu Leu Ala Asn Gln Gln Val Phe His Ile Ser Cys Phe
                405                     410                     415
Arg Cys Ser Tyr Cys Asn Asn Lys Leu Ser Leu Gly Thr Tyr Ala Ser
                420                     425                     430
Leu His Gly Arg Ile Tyr Cys Lys Pro His Phe Asn Gln Leu Phe Lys
        435                     440                     445
Ser Lys Gly Asn Tyr Asp Glu Gly Phe Gly His Arg Pro His Lys Asp
        450                     455                     460
Leu Trp Ala Ser Lys Asn Glu Asn Glu Glu Ile Leu Glu Arg Pro Ala
465                     470                     475                     480
Gln Leu Ala Asn Ala Arg Glu Thr Pro His Ser Pro Gly Val Glu Asp
                485                     490                     495
Ala Pro Ile Ala Lys Val Gly Val Leu Ala Ala Ser Met Glu Ala Lys
```

```
             500                    505                    510
Ala Ser Ser Gln Gln Glu Lys Glu Asp Lys Pro Ala Glu Thr Lys Lys
             515                    520                    525
Leu Arg Ile Ala Trp Pro Pro Pro Thr Glu Leu Gly Ser Ser Gly Ser
         530                    535                    540
Ala Leu Glu Glu Gly Ile Lys Met Ser Lys Pro Lys Trp Pro Pro Glu
545                    550                    555                    560
Asp Glu Ile Ser Lys Pro Glu Val Pro Glu Asp Val Asp Leu Asp Leu
                 565                    570                    575
Lys Lys Leu Arg Arg Ser Ser Ser Leu Lys Glu Arg Ser Arg Pro Phe
             580                    585                    590
Thr Val Ala Ala Ser Phe Gln Ser Thr Ser Val Lys Ser Pro Lys Thr
         595                    600                    605
Val Ser Pro Pro Ile Arg Lys Gly Trp Ser Met Ser Glu Gln Ser Glu
    610                    615                    620
Glu Ser Val Gly Gly Arg Val Ala Glu Arg Lys Gln Val Glu Asn Ala
625                    630                    635                    640
Lys Ala Ser Lys Lys Asn Gly Asn Val Gly Lys Thr Thr Trp Gln Asn
             645                    650                    655
Lys Glu Ser Lys Gly Glu Thr Gly Lys Arg Ser Lys Glu Gly His Ser
             660                    665                    670
Leu Glu Met Glu Asn Glu Asn Leu Val Glu Asn Gly Ala Asp Ser Asp
         675                    680                    685
Glu Asp Asp Asn Ser Phe Leu Lys Gln Gln Ser Pro Gln Glu Pro Lys
    690                    695                    700
Ser Leu Asn Trp Ser Ser Phe Val Asp Asn Thr Phe Ala Glu Glu Phe
705                    710                    715                    720
Thr Thr Gln Asn Gln Lys Ser Gln Asp Val Glu Leu Trp Glu Gly Glu
                 725                    730                    735
Val Val Lys Glu Leu Ser Val Glu Glu Gln Ile Lys Arg Asn Arg Tyr
             740                    745                    750
Tyr Asp Glu Asp Glu Asp Glu Glu
         755                    760
```

```
<210> 5397
<211> 561
<212> DNA
<213> Homo sapiens

<400> 5397
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60
ttagggtaag ggttagggca agcattagca gcaggggcat ggccctggga agcacctgga
120
ccccagaaca taagacagga gggagagatg ccatccattc agcgggcact tatgcccacg
180
accagctgag ccagaccagc attcccattt caccacccct tactcctcaa gatgcaaatg
240
aagctcaggg ctgggcggaa gctggcaggg ctgtccacag gaggacccc cgtgtgtctc
300
tcgggctgcc caggtggctc tgtccaccct tctgtctggg aggctcctta aggctgggga
360
gggcccagag ggaaggagat cctgaggggc tggcagattc aggccctccc tgcgagctga
420
```

4580

```
ggtttgaaga ggagagcaga ccacccagag tagtgggaga aagcaccggc agaaaagctg
480
gcatatccac cgagggcctc tctgcttctt ttgacctttt tcagagtttc agagttatga
540
accaaatcgc cttcatgaga g
561
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```
<210> 5398
<211> 154
<212> PRT
<213> Homo sapiens
```

```
<400> 5398
Met Ala Leu Gly Ser Thr Trp Thr Pro Glu His Lys Thr Gly Gly Arg
 1               5                   10                  15
Asp Ala Ile His Ser Ala Gly Thr Tyr Ala His Asp Gln Leu Ser Gln
            20                  25                  30
Thr Ser Ile Pro Ile Ser Pro Pro Leu Thr Pro Gln Asp Ala Asn Glu
        35                  40                  45
Ala Gln Gly Trp Ala Glu Ala Gly Arg Ala Val His Arg Glu Asp Pro
    50                  55                  60
Arg Val Ser Leu Gly Leu Pro Arg Trp Leu Cys Pro Pro Phe Cys Leu
65                  70                  75                  80
Gly Gly Ser Leu Arg Leu Gly Arg Ala Gln Arg Glu Gly Asp Pro Glu
                85                  90                  95
Gly Leu Ala Asp Ser Gly Pro Pro Cys Glu Leu Arg Phe Glu Glu Glu
            100                 105                 110
Ser Arg Pro Pro Arg Val Val Gly Glu Ser Thr Gly Arg Lys Ala Gly
        115                 120                 125
Ile Ser Thr Glu Gly Leu Ser Ala Ser Phe Asp Leu Phe Gln Ser Phe
    130                 135                 140
Arg Val Met Asn Gln Ile Ala Phe Met Arg
145                 150
```

```
<210> 5399
<211> 835
<212> DNA
<213> Homo sapiens
```

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<400> 5399
ncggccgcgc aacaaaggag tcacccggcg atgagccccg gcacccccgg accgaccatg
60
ggcagatccc agggcagccc aatggatcca atggtgatga agagacctca gttgtatggc
120
atgggcagta accctcattc tcagcctcag cagagcagtc cgtacccagg aggttcctat
180
ggccctccag gcccacagcg gtatccaatt ggcatccagg gtcggactcc cggggccatg
240
gccggaatgc agtaccctca gcagcagatg ccacctcagt atggacagca aggtgtgagt
300
ggttactgcc agcagggcca acagccatat tacagccagc agccgcagcc cccgcacctc
360
ccaccccagg cgcagtatct gccgtcccag tcccagcaga ggtaccagcc gcagcaggac
420
```

4581

atgtctcagg aaggctatgg aactagatct caacctcctc tggcccccgg aaaacctaac
480
catgaagact tgaacttaat acagcaagaa agaccatcaa gtttaccagt aagacattat
540
tgtgctgatt tggaaatgta atgagttaaa gactttagga aagagctgtt gttttgtttt
600
gttctacttt atattatgac atgattgaga agtttctaga cttcaggttt attttgtggt
660
caattttca aggtttacct tttaggagct ctgtagtcct ggataagtct atttcatgtg
720
tatatatctc tgttgcagag tgtagacatc agttggaagg ttttatgcgg ctggtcgatt
780
ttgtgtgcag gtggttattg ctgccaaaaa gcaacagcct aaagaaagct caact
835

<210> 5400
<211> 186
<212> PRT
<213> Homo sapiens

<400> 5400
Xaa Ala Ala Gln Gln Arg Ser His Pro Ala Met Ser Pro Gly Thr Pro
 1   5   10   15
Gly Pro Thr Met Gly Arg Ser Gln Gly Ser Pro Met Asp Pro Met Val
             20   25   30
Met Lys Arg Pro Gln Leu Tyr Gly Met Gly Ser Asn Pro His Ser Gln
         35   40   45
Pro Gln Gln Ser Ser Pro Tyr Pro Gly Gly Ser Tyr Gly Pro Pro Gly
     50   55   60
Pro Gln Arg Tyr Pro Ile Gly Ile Gln Gly Arg Thr Pro Gly Ala Met
65   70   75   80
Ala Gly Met Gln Tyr Pro Gln Gln Gln Met Pro Pro Gln Tyr Gly Gln
                 85   90   95
Gln Gly Val Ser Gly Tyr Cys Gln Gln Gly Gln Gln Pro Tyr Tyr Ser
            100   105   110
Gln Gln Pro Gln Pro Pro His Leu Pro Pro Gln Ala Gln Tyr Leu Pro
        115   120   125
Ser Gln Ser Gln Gln Arg Tyr Gln Pro Gln Gln Asp Met Ser Gln Glu
    130   135   140
Gly Tyr Gly Thr Arg Ser Gln Pro Pro Leu Ala Pro Gly Lys Pro Asn
145   150   155   160
His Glu Asp Leu Asn Leu Ile Gln Gln Glu Arg Pro Ser Ser Leu Pro
                165   170   175
Val Arg His Tyr Cys Ala Asp Leu Glu Met
                180   185

<210> 5401
<211> 2674
<212> DNA
<213> Homo sapiens

<400> 5401
ncccttcaa aagaaggtgc ccccgccctt ggcccgtggg taacgccatt taaggcccgg
60

4582

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ccccgggaat tttgggccag gtgtaagcgc ccgtgtcccc gccacgtcgc ggacatggtg
120
atttcagaaa gtatggatat actcttcaga ataagaggag gccttgattt ggcttttcag
180
ctagctactc ctaatgaaat ttttctcaag aaggcactga aacatgtgtt gagtgacctg
240
tcaactaagc tgtcttcaaa cgcccttgtg ttcagaattt gccacagttc agtgtatata
300
tggcctagca gtgacataaa caccattcct ggagaactga ctgatgcttc tgcttgtaag
360
aacatactgc gctttattca atttgagcca gaagaagata taaaaagaaa attcatgaga
420
aagaaggaca aaaagttatc agacatgcat caaatagtaa atatagatct tatgctggaa
480
atgtcaacct ccctggcagc tgtaacgccc atcattgaaa gggaaagcgg aggacaccat
540
tatgttaata tgactttacc tgtcgatgca gttatatctg ttgctccaga agaaacatgg
600
ggaaaagttc gtaagctcct ggttgatgca attcataatc aactaactga catggaaaaa
660
tgtattttga aatatatgaa aagaacatct attgtggtcc ctgaaccact gcactttta
720
ttaccaggga aaaaaatct tgtaacaatt tcatatcctt caggaatacc agatggccag
780
ctgcaggcct ataggaagga gttacatgat cttttcaatc tgcctcacga cagaccctat
840
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900
aatccacata cttaccttaa tccacctaac atggagactg gtatgattta tgtggtccag
960
ggcatatatg gctatcatca ttatatgcag gatcgcatag atgacaatgg ctggggctgt
1020
gcttatcgat ctctgcagac tatctgctct tggttcaaac atcagggata cacagagagg
1080
tccattccaa cacacagaga aattcagcag gctctagtcg atgccgggga caaaccagca
1140
acatttgtcg gatcgcggca atggattgga tctattgagg tgcagctggt actaaaccaa
1200
ttgatcggta taacgtcaaa aatcctgttt gtcagccaag gttcagaaat tgcctctcaa
1260
ggacgggaac tggctaatca tttccaaagt gaaggaactc cagttatgat cggggggagga
1320
gttttggccc acacaatact aggagttgca tggaatgaga ttacagggca gataaagttt
1380
ctgattctag atccacatta taccggtgct gaagacctgc aagttatttt ggaaaagggc
1440
tggtgcggat ggaagggccc agatttttgg aacaaggatg catactataa cttatgtctt
1500
cctcagcgac caaatatgat ttaaaatatc ttggagtcaa agactgcagt agagtggtat
1560
tataaatttg tgaataaaga atcagtttaa ttttttcacat taaatcctgg ttctagtttg
1620
accatttaaa ttatgacctt tttcaaaggt tgtaaatact gcacggagaa tgtatttta
1680
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4583

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gacgttcctt taataactta aaagacaaag catacacaac cagcatatta taggcatgta
1740
aatacatgtg ttcttaaatg gatcttcact tggaagaaag tttttcgtcc ttctcagaag
1800
gagattagac acaacatatg gtaaagccaa aagcaggagc ttatagattt gcatgaaatg
1860
aaggcgttct tcagacttct tcataaccca cgtgacatct gtttttaaaa acacgttaac
1920
attaaaaact ttttttttaa aagagtttta tccccaaact tccaccatgc agtcccattt
1980
ttggtctcta gactctggta agtataacca gtactaaaat gttaatgaga atgaaacaat
2040
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2100
tcactgcggg aggaaaaaag cagcagctct gagttactta ccagcacttc cttttcccac
2160
tggtattttc tacacttccg agactccgtt tctgtctgag cacggcaaca caatcattcc
2220
tgtcagggtg ttcacttgct tttattgtct gcatacattt aattgttgta agaaacttgg
2280
cacagtctgg aaatccacat gaccaagcga gatcttcagc tgtttgcccg ttcttattac
2340
ataaactgaa aacaggataa aaacggagtg aaatgaaaca ttgaacttaa gtcttttttt
2400
tatatcttac aagggaattt tgggctcata caaatgttgg ttgcagaaca gaagaggtaa
2460
aggatgcata aggaaattgc atttttggtc actattgtat cctcagcaac taacagaatc
2520
cagcatagag cgggcattcc agttctgaat gaatgttaga attatctgat gtttaataca
2580
gtgtatgagt acccaaaggt agtcaatggg aactatagaa tgggttttcc tgaaccgaaa
2640
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2674


<210> 5402
<211> 507
<212> PRT
<213> Homo sapiens

<400> 5402
Xaa Leu Ser Lys Glu Gly Ala Pro Ala Leu Gly Pro Trp Val Thr Pro
 1               5                  10                  15
Phe Lys Ala Arg Pro Arg Glu Phe Trp Ala Arg Cys Lys Arg Pro Cys
             20                  25                  30
Pro Arg His Val Ala Asp Met Val Ile Ser Glu Ser Met Asp Ile Leu
         35                  40                  45
Phe Arg Ile Arg Gly Gly Leu Asp Leu Ala Phe Gln Leu Ala Thr Pro
     50                  55                  60
Asn Glu Ile Phe Leu Lys Lys Ala Leu Lys His Val Leu Ser Asp Leu
 65                  70                  75                  80
Ser Thr Lys Leu Ser Ser Asn Ala Leu Val Phe Arg Ile Cys His Ser
                 85                  90                  95
Ser Val Tyr Ile Trp Pro Ser Ser Asp Ile Asn Thr Ile Pro Gly Glu
```

```
                    100                    105                    110
Leu Thr Asp Ala Ser Ala Cys Lys Asn Ile Leu Arg Phe Ile Gln Phe
         115                    120                    125
Glu Pro Glu Glu Asp Ile Lys Arg Lys Phe Met Arg Lys Lys Asp Lys
     130                    135                    140
Lys Leu Ser Asp Met His Gln Ile Val Asn Ile Asp Leu Met Leu Glu
145                    150                    155                    160
Met Ser Thr Ser Leu Ala Ala Val Thr Pro Ile Ile Glu Arg Glu Ser
                    165                    170                    175
Gly Gly His His Tyr Val Asn Met Thr Leu Pro Val Asp Ala Val Ile
                    180                    185                    190
Ser Val Ala Pro Glu Glu Thr Trp Gly Lys Val Arg Lys Leu Leu Val
         195                    200                    205
Asp Ala Ile His Asn Gln Leu Thr Asp Met Glu Lys Cys Ile Leu Lys
     210                    215                    220
Tyr Met Lys Arg Thr Ser Ile Val Val Pro Glu Pro Leu His Phe Leu
225                    230                    235                    240
Leu Pro Gly Lys Lys Asn Leu Val Thr Ile Ser Tyr Pro Ser Gly Ile
                    245                    250                    255
Pro Asp Gly Gln Leu Gln Ala Tyr Arg Lys Glu Leu His Asp Leu Phe
         260                    265                    270
Asn Leu Pro His Asp Arg Pro Tyr Phe Lys Arg Ser Asn Ala Tyr His
         275                    280                    285
Phe Pro Asp Glu Pro Tyr Lys Asp Gly Tyr Ile Arg Asn Pro His Thr
     290                    295                    300
Tyr Leu Asn Pro Pro Asn Met Glu Thr Gly Met Ile Tyr Val Val Gln
305                    310                    315                    320
Gly Ile Tyr Gly Tyr His His Tyr Met Gln Asp Arg Ile Asp Asp Asn
                    325                    330                    335
Gly Trp Gly Cys Ala Tyr Arg Ser Leu Gln Thr Ile Cys Ser Trp Phe
                    340                    345                    350
Lys His Gln Gly Tyr Thr Glu Arg Ser Ile Pro Thr His Arg Glu Ile
         355                    360                    365
Gln Gln Ala Leu Val Asp Ala Gly Asp Lys Pro Ala Thr Phe Val Gly
     370                    375                    380
Ser Arg Gln Trp Ile Gly Ser Ile Glu Val Gln Leu Val Leu Asn Gln
385                    390                    395                    400
Leu Ile Gly Ile Thr Ser Lys Ile Leu Phe Val Ser Gln Gly Ser Glu
                    405                    410                    415
Ile Ala Ser Gln Gly Arg Glu Leu Ala Asn His Phe Gln Ser Glu Gly
         420                    425                    430
Thr Pro Val Met Ile Gly Gly Gly Val Leu Ala His Thr Ile Leu Gly
         435                    440                    445
Val Ala Trp Asn Glu Ile Thr Gly Gln Ile Lys Phe Leu Ile Leu Asp
     450                    455                    460
Pro His Tyr Thr Gly Ala Glu Asp Leu Gln Val Ile Leu Glu Lys Gly
465                    470                    475                    480
Trp Cys Gly Trp Lys Gly Pro Asp Phe Trp Asn Lys Asp Ala Tyr Tyr
                    485                    490                    495
Asn Leu Cys Leu Pro Gln Arg Pro Asn Met Ile
                    500                    505
```

```
<210> 5403
<211> 451
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<212> DNA
<213> Homo sapiens

<400> 5403
gcgccttccc cctcgacggc gccagctcct cggcctctag ctccaggatg tgctcgtccg
60
cacgcgctag ttcgcgctgc tggatcaggc tcaggatctc cagcactgac aatggctcct
120
tcatctttgg gggctctggg accttgggtg ggggctctgg agctgcctcg cctgcaggca
180
ccactctctc agccagggac gcacgctggg gctntggatc cacgccccag tctcaggaag
240
gccagtctcc gggcggcctc ccccgctgcc tcctcgtcgc cgtgggctcg ggtcccatgc
300
agccgggcca ggaggccaaa atctgctgag ctcctgcgta tccctggtac cagcacacgg
360
cccaagaaag agcggggctg cccatcccca gggctgcctg ccgccggccc ggggcccagc
420
ccagccggaa gggggccagg cccgcaagct t
451

<210> 5404
<211> 150
<212> PRT
<213> Homo sapiens

<400> 5404
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Cys Ala Arg Pro His Ala Leu Val Arg Ala Ala Gly Ser Gly Ser Gly
                20   25   30
Ser Pro Ala Leu Thr Met Ala Pro Ser Ser Leu Gly Ala Leu Gly Pro
            35   40   45
Trp Val Gly Ala Leu Glu Leu Pro Arg Leu Gln Ala Pro Leu Ser Gln
    50   55   60
Pro Gly Thr His Ala Gly Ala Xaa Asp Pro Arg Pro Ser Leu Arg Lys
65   70   75   80
Ala Ser Leu Arg Ala Ala Ser Pro Ala Ala Ser Ser Ser Pro Trp Ala
                85   90   95
Arg Val Pro Cys Ser Arg Ala Arg Arg Pro Lys Ser Ala Glu Leu Leu
                100   105   110
Arg Ile Pro Gly Thr Ser Thr Arg Pro Lys Lys Glu Arg Gly Cys Pro
            115   120   125
Ser Pro Gly Leu Pro Ala Ala Gly Pro Gly Pro Ser Pro Ala Gly Arg
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Gly Pro Gly Pro Gln Ala
145   150

<210> 5405
<211> 1609
<212> DNA
<213> Homo sapiens

<400> 5405

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120
gtcattgaac cagacaaaaa cagaaaatat tgtagtgcaa aagcaaggca ttcgtggacc
180
aaagaccggc gtgcgatgag agtgatgtct attgaacgta agaagtggat gaacatccgt
240
cctctcccca caaagaaaca aatgccttta cagtttgatc tgtgcaacca tattgcttct
300
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360
gtttggactt acatgaagga gaatgggata caagatatgg agcaatttta cgaactatgg
420
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480
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660
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780
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840
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960
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catgttttag cagaatgaat ttgtttaata taataaagtt tgctacttat ctgtatgtag
1320
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1380
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1440
taatgtgcat tgagaatatt ttgaaaaata attgactcaa attttatttc ttggtctttt
1500
gctgtttaaa tgatgatttt gaaagattaa acctgtactg ttggtattgt gttagtgtat
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4587

<210> 5406
<211> 291
<212> PRT
<213> Homo sapiens

<400> 5406
Ile Leu Ala Glu Leu Glu Ala Asn Val Pro Gly Ala Gln Val Leu Gly
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Asn Gln Ile Met Pro Gly Phe Leu Asn Met Lys Ile Lys Phe Val Cys
            20   25   30
Ala Gln Cys Leu Arg Asn Gly Gln Val Ile Glu Pro Asp Lys Asn Arg
        35   40   45
Lys Tyr Cys Ser Ala Lys Ala Arg His Ser Trp Thr Lys Asp Arg Arg
    50   55   60
Ala Met Arg Val Met Ser Ile Glu Arg Lys Lys Trp Met Asn Ile Arg
65   70   75   80
Pro Leu Pro Thr Lys Lys Gln Met Pro Leu Gln Phe Asp Leu Cys Asn
                85   90   95
His Ile Ala Ser Gly Lys Lys Cys Gln Tyr Val Gly Asn Cys Ser Phe
            100   105   110
Ala His Ser Pro Glu Glu Arg Glu Val Trp Thr Tyr Met Lys Glu Asn
        115   120   125
Gly Ile Gln Asp Met Glu Gln Phe Tyr Glu Leu Trp Leu Lys Ser Gln
    130   135   140
Lys Asn Glu Lys Ser Glu Asp Ile Ala Ser Gln Ser Asn Lys Glu Asn
145   150   155   160
Gly Lys Gln Ile His Met Pro Thr Asp Tyr Ala Glu Val Thr Val Asp
                165   170   175
Phe His Cys Trp Met Cys Gly Lys Asn Cys Asn Ser Glu Lys Gln Trp
                180   185   190
Gln Gly His Ile Ser Ser Glu Lys His Lys Glu Lys Val Phe His Thr
        195   200   205
Glu Asp Asp Gln Tyr Cys Trp Gln His Arg Phe Pro Thr Gly Tyr Phe
    210   215   220
Ser Ile Cys Asp Arg Tyr Met Asn Gly Thr Cys Pro Glu Gly Asn Ser
225   230   235   240
Cys Lys Phe Ala His Gly Asn Ala Glu Leu His Glu Trp Glu Glu Arg
                245   250   255
Arg Asp Ala Leu Lys Met Lys Leu Asn Lys Ala Arg Lys Asp His Leu
                260   265   270
Ile Gly Pro Asn Asp Asn Asp Phe Gly Lys Tyr Ser Phe Leu Phe Lys
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Asp Leu Asn
    290

<210> 5407
<211> 2010
<212> DNA
<213> Homo sapiens

<400> 5407
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                                    4588

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240
gttatcgtca tgttcactgc tctccaactg catagacagt gtgtcgtttg caagcaagct
300
gatgaagaat tccagatcct ggcaaactcc tggcgatact ccagtgcatt caccaacagg
360
atattttttg ccatggtgga ttttgatgaa ggctctgatg tatttcagat gctaaacatg
420
aattcagctc caactttcat caactttcct gcaaaaggga aacccaaacg gggtgataca
480
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540
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600
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660
tttaataaaa ctggatgggc ttttgcagct ttgtgttttg tgcttgctat gacatctggt
720
caaatgtgga accatataag aggaccacca tatgcccata agaatcccca cacgggacat
780
gtgaattata tccatggaag cagtcaagcc cagtttgtag ctgaaacaca cattgttctt
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900
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960
ttcagttgga tgctctctat ttttagatct aaatatcatg ctacccata cagctttctg
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1080
aatcgtgtgt gtttgaaaag aagaatgcaa cttgtatatt ttgtattacc tcttttttc
1140
aagtgattta aatagttaat catttaacca agaagatgt gtagtgcctt aacaagcaat
1200
cctctgtcaa aatctgaggt atttgaaaat aattatcctc ttaaccttct cttcccagtg
1260
aactttatgg aacatttaat ttagtacaat taagtatatt ataaagatac tatgactgcc
1320
acctgccatt taccttctaa taaccctgcc atgtggtttg cagaaagaga tggatatagt
1380
agcctcagaa gaaatatttt atgtgggttt tttgttttc gttactagat ttcatggatg
1440
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1560
tctatgctgt ggttcttatg agacttgtat gaagatgccc tgatttgtac agattgacca
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cgggaatact actgccatgt aatctgtata gttccagata atttgtcatg aacattgaca
1680
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4589

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1800
gactttttgtg aaaattttga attagctttc atatgaagtg ccttaagtag actcttcatt
1860
tacttttctg gtaatggttt aaatatcatt tgttatgcat ttttaagata cagttcagaa
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1980
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2010

<210> 5408
<211> 335
<212> PRT
<213> Homo sapiens

<400> 5408
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Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln Arg Lys
            20   25   30
Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met Glu Trp Thr
        35   40   45
Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys Phe Arg Arg Leu
    50   55   60
Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile Val Met Phe Thr Ala
65   70   75   80
Leu Gln Leu His Arg Gln Cys Val Val Cys Lys Gln Ala Asp Glu Glu
                85   90   95
Phe Gln Ile Leu Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Thr Asn
            100   105   110
Arg Ile Phe Phe Ala Met Val Asp Phe Asp Glu Gly Ser Asp Val Phe
        115   120   125
Gln Met Leu Asn Met Asn Ser Ala Pro Thr Phe Ile Asn Phe Pro Ala
    130   135   140
Lys Gly Lys Pro Lys Arg Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly
145   150   155   160
Phe Ser Ala Glu Gln Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val
                165   170   175
Asn Ile Arg Val Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu
            180   185   190
Gly Leu Leu Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser
            195   200   205
Asn Met Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu
    210   215   220
Cys Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
225   230   235   240
Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr
                245   250   255
Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val
                260   265   270
Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu

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              275                 280                 285
Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys Ile Met Cys Val
      290                 295                 300
Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile
305                 310                 315                 320
Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser
                  325                 330                 335
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<210> 5409
<211> 2019
<212> DNA
<213> Homo sapiens


<400> 5409
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caaaatgcat aatacagaaa ctttttaaga aaggataaaa aattacactc aggacccata
180
actcttcctc attataagca tatgtagtga ttcattcatg caggttttta tatgtagata
240
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300
taatggtata gctttcttct attttgcttt tagtgttagg tttgctaaaa gcttatttaa
360
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420
cccctgtcat tgttcggtac catatctcct ggcttccttc tacatgggtc acttagttaa
480
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540
cctggctact cctcactgtg aacgtttctc ataggtgtca tatggcagga tgaaaaacat
600
atttgcctcc cagtgaaaga tggcacaggc ttttgcccag ccaggttggc aagagaacag
660
aactcttaac cccttgctcg acaggtttga gttcaagggg ttggatgctc caagcagagg
720
gccaaaccct gatttatgaa gcatgctagg tcaacagcca gtcagaccac tcccacaaag
780
gctgccacaa aaactcccag ggaactgaga aaaatgttca gggtggcaga actctgtggc
840
ccttctgcct ctttggagaa gtgttcaaag tagagaatat ccccagccc cacccagtgc
900
catgggacca aggcctttcc atcctggtaa tcataagttt taggggaatc agctgccctg
960
ggcctgccag ggcatcacat ccacagaagc agaagagagg agtcctccat agaagccatg
1020
gaggagccgg agattgacac gcaggtggaa gtatctgcct cccacctcct accctccccg
1080
cagcctatag tctagcacag gcctggagtg cgggagcaac tgctacaatg ttcagttcaa
1140
tcagataaat tggttgggtg tctcttcaga ttccagaaca cttggaaatg gtaattctgc
1200
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4591

caaaagaggc tctgtcagag atgatctggg tgacagattg cagttaaaaa catcatctat
1260
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1320
ctcactcatt ttttccagaa ataacttaat cgtctccttc ttttctggac ttgtacttga
1380
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1440
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1500
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1560
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1620
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1800
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1860
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1920
gtcgccgctc agctggaagg caccgggctg caggcgcagc agctgagcca gcggcagcag
1980
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2019

<210> 5410
<211> 198
<212> PRT
<213> Homo sapiens

<400> 5410
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Arg Thr Tyr Ala Phe Leu Val Asn Thr Arg His Pro Lys Ile Arg Arg
            20   25   30
Gln Ile Glu Gln Gly Met Asp Met Val Ile Ser Ser Val Ile Gly Glu
        35   40   45
Ser Tyr Arg Leu Gln Ser Met Gln Cys Ser Ser Leu Phe Gln Phe Asp
    50   55   60
Phe Gln Glu Ala Val Lys Asn Phe Phe Pro Pro Gly Asn Glu Val Val
65   70   75   80
Asn Gly Glu Asn Leu Ser Phe Ala Tyr Glu Phe Lys Ala Asp Ala Leu
                85   90   95
Phe Asp Phe Phe Tyr Trp Phe Gly Leu Ser Asn Ser Val Val Lys Val
                100   105   110
Asn Gly Lys Val Leu Asn Leu Ser Ser Thr Ser Pro Glu Lys Lys Glu
            115   120   125
Thr Ile Lys Leu Phe Leu Glu Lys Met Ser Glu Pro Leu Ile Arg Arg
        130   135   140
Ser Ser Phe Ser Asp Arg Lys Phe Ser Val Thr Ser Arg Gly Ser Ile

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145                    150                    155                    160
Asp Asp Val Phe Asn Cys Asn Leu Ser Pro Arg Ser Ser Leu Thr Glu
                       165                    170                    175
Pro Leu Leu Ala Glu Leu Pro Phe Pro Ser Val Leu Glu Ser Glu Glu
                       180                    185                    190
Thr Pro Asn Gln Phe Ile
            195


<210> 5411
<211> 2802
<212> DNA
<213> Homo sapiens

<400> 5411
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120
tgaagaattc cttggggtac ccacaggctt accagtttgg aaactcgcca ccccgagcag
180
aaggcagccc ggtattttgt gttatacaaa ccgcccccta aagacaacat tcccgcccta
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420
gttgttgaca tgcagaagcg cctccatcga agtgtttttc tcaccttcct ccgcatgtcc
480
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540
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600
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660
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720
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780
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840
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960
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1020
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1080
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1200
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4593

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1320
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1380
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1620
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1680
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1740
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1800
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2100
cccaagcccg accattttgt tcaggaccct gcagtgctga gagagaaggc agaagccagg
2160
cgcatggcct ttctcgccaa gaaagggtac cggcatgaca gctcaacagc agtggccggc
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2280
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2340
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2400
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2460
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2520
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2640
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2700
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2802
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4594

<210> 5412
<211> 642
<212> PRT
<213> Homo sapiens

<400> 5412
Met Gln Lys Arg Leu His Arg Ser Val Phe Leu Thr Phe Leu Arg Met
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Ser Thr His Lys Glu Ser Lys Asp His Phe Ile Ser Pro Ser Ala Phe
                20   25   30
Gly Glu Ile Leu Tyr Asn Asn Phe Leu Phe Asp Ile Pro Lys Ile Leu
            35   40   45
Asp Leu Cys Val Leu Phe Gly Lys Gly Asn Ser Pro Leu Leu Gln Lys
        50   55   60
Met Ile Gly Asn Ile Phe Thr Gln Gln Pro Ser Tyr Tyr Ser Asp Leu
65   70   75   80
Asp Glu Thr Leu Pro Thr Ile Leu Gln Val Phe Ser Asn Ile Leu Gln
                85   90   95
His Cys Gly Leu Gln Gly Asp Gly Ala Asn Thr Thr Pro Gln Lys Leu
            100   105   110
Glu Glu Arg Gly Arg Leu Thr Pro Ser Asp Met Pro Leu Leu Glu Leu
        115   120   125
Lys Asp Ile Val Leu Tyr Leu Cys Asp Thr Cys Thr Thr Leu Trp Ala
        130   135   140
Phe Leu Asp Ile Phe Pro Leu Ala Cys Gln Thr Phe Gln Lys His Asp
145   150   155   160
Phe Cys Tyr Arg Leu Ala Ser Phe Tyr Glu Ala Ala Ile Pro Glu Met
                165   170   175
Glu Ser Ala Ile Lys Lys Arg Arg Leu Glu Asp Ser Lys Leu Leu Gly
            180   185   190
Asp Leu Trp Gln Arg Leu Ser His Ser Arg Lys Lys Leu Met Glu Ile
        195   200   205
Phe His Ile Ile Leu Asn Gln Ile Cys Leu Leu Pro Ile Leu Glu Ser
        210   215   220
Ser Cys Asp Asn Ile Gln Gly Phe Ile Glu Glu Phe Leu Gln Ile Phe
225   230   235   240
Ser Ser Leu Leu Gln Glu Lys Arg Phe Leu Arg Asp Tyr Asp Ala Leu
                245   250   255
Phe Pro Val Ala Glu Asp Ile Ser Leu Leu Gln Gln Ala Ser Ser Val
            260   265   270
Leu Asp Glu Thr Arg Thr Ala Tyr Ile Leu Gln Ala Val Glu Ser Ala
        275   280   285
Trp Glu Gly Val Asp Arg Arg Lys Ala Thr Asp Ala Lys Asp Pro Ser
    290   295   300
Val Ile Glu Glu Pro Asn Gly Glu Pro Asn Gly Val Thr Val Thr Ala
305   310   315   320
Glu Ala Val Ser Gln Ala Ser Ser His Pro Glu Asn Ser Glu Glu Glu
                325   330   335
Glu Cys Met Gly Ala Ala Ala Ala Val Gly Pro Ala Met Cys Gly Val
            340   345   350
Glu Leu Asp Ser Leu Ile Ser Gln Val Lys Asp Leu Leu Pro Asp Leu
        355   360   365
Gly Glu Gly Phe Ile Leu Ala Cys Leu Glu Tyr Tyr His Tyr Asp Pro

```
        370                  375                  380
Glu Gln Val Ile Asn Asn Ile Leu Glu Glu Arg Leu Ala Pro Thr Leu
385                  390                  395                  400
Ser Gln Leu Asp Arg Asn Leu Asp Arg Glu Met Lys Pro Asp Pro Thr
                405                  410                  415
Pro Leu Leu Thr Ser Arg His Asn Val Phe Gln Asn Asp Glu Phe Asp
                420                  425                  430
Val Phe Ser Arg Asp Ser Val Asp Leu Ser Arg Val His Lys Gly Lys
                435                  440                  445
Ser Thr Arg Lys Glu Glu Asn Thr Arg Ser Leu Leu Asn Asp Lys Arg
        450                  455                  460
Ala Val Ala Ala Gln Arg Gln Arg Tyr Glu Gln Tyr Ser Val Val Val
465                  470                  475                  480
Glu Glu Val Pro Leu Gln Pro Gly Glu Ser Leu Pro Tyr His Ser Val
                485                  490                  495
Tyr Tyr Glu Asp Glu Tyr Asp Asp Thr Tyr Asp Gly Asn Gln Val Gly
                500                  505                  510
Ala Asn Asp Ala Asp Ser Met Thr Ser Ser Ser Ala Ala Gly His Ser
        515                  520                  525
Pro Ser Gln Val Leu Arg Thr Lys Val Pro Arg Glu Gly Gln Glu Glu
        530                  535                  540
Asp Asp Asp Asp Glu Glu Asp Asp Ala Asp Glu Glu Ala Pro Lys Pro
545                  550                  555                  560
Asp His Phe Val Gln Asp Pro Ala Val Leu Arg Glu Lys Ala Glu Ala
                565                  570                  575
Arg Arg Met Ala Phe Leu Ala Lys Lys Gly Tyr Arg His Asp Ser Ser
                580                  585                  590
Thr Ala Val Ala Gly Ser Pro Arg Gly His Gly Gln Ser Arg Glu Thr
                595                  600                  605
Thr Gln Glu Arg Arg Lys Lys Glu Ala Asn Lys Ala Thr Arg Ala Asn
        610                  615                  620
His Asn Arg Arg Thr Met Ala Asp Arg Lys Arg Ser Lys Gly Met Ile
625                  630                  635                  640
Pro Ser
```

```
<210> 5413
<211> 1677
<212> DNA
<213> Homo sapiens

<400> 5413
agagatggtt gtgtaatgaa aattacaagg tcgttgaaca aggttagtag tgtcttgcct
60
ttttattctg tcatctcaaa cttcataaac agtcatacgt tctttgaaac gtagatttaa
120
tgtgtgcagt catttataaa tcaatgacat ttctcttttt tgtcataaaa ctgtatactg
180
aagaaattaa cgaatgcaca gtttctaaag ctgttgcatt tgtctgtgga atcataggtt
240
cccactaaga agaatttcag cattctggcc agaaatttga atacaattca agttgaagaa
300
atgtctgcct gtaacattag catccagggt cccagcatat ataataagga gcctaaaaat
360
```

```
ataataaatc ctcatgaaaa agttcaaatg aagtcaattt gtgcaaattc tcctataaag
420
gcacaacagg atcaattaca agtaaaaaac aatataaaag caagtcttca caatgtcaaa
480
agttccttac ctctttttaa tactaagtcc tctacttctg tggggcagtt gcagtctcct
540
accttgaatt cacctatcta tatgcaaaag caaggaaaaa atgaacatct tgcatttaat
600
accaaatcta aggcttcaac agttggttca gaattggtac ttgtttctac caccgttcca
660
actgttcatc atgtttctga tttggaaatg agctctactc tggactgttt acctgtgttg
720
gctgattggg aggatgtggt tttactgcca gcatctcagc ctgaggaaaa cgtagactgt
780
acagttccca ttagtgactc agacttagag atttcattta attctggaga aagattaatg
840
gttttgaaag aattggaaat gtcaagtcat gaaaactttg gagacataga ggaaactcct
900
caaaaatctg agacttctaa gtctattgtg tacaagagtc ctcacactac tatttataat
960
gtaaaagaag ccaaagatcc aggttcagat atttctgcct ttaagttacc tgaacacaaa
1020
tcaagtacct tcaacagagt taatgccaat atgtctcatc ctttagtttt ggggaaacat
1080
cctcttcttt caggtggtac caaaaggaat ccatgcagtc cccaagcttt cccaccagca
1140
aaaaaacaac ccttcactat tcatgaagaa aagcctacat catctgattg ctccccagta
1200
agaagttctt cctggaggcg tctcccatct atattaactt ctacagttaa cctacaagag
1260
ccatggaaga gtgggaaaat gacacctcca ttatgcaagt gtggtcggag atctaagaga
1320
cttgttgttt ctaataatgg accgaaccat ggaaaagtct tctattgttg ccctatcggg
1380
aaataccaag aaaacagaaa atgttgtggt tatttcaaat gggaacaaac acttcaaaag
1440
gaaagagcca acagcatggt tccatctcat tccacagggg gactcacttt tagttctcca
1500
gaaacaagcc atatttgtga cagaaattta agtatttcca ccaaaaattc tttgagactc
1560
aggccttcaa tgaggaattg ataacctttc atgtatgaat cctaattgtt ccttgaattt
1620
ccaaacatga gtattctgat aacatcttac actattttat ttttatttta tatatta
1677
```

<210> 5414
<211> 426
<212> PRT
<213> Homo sapiens

<400> 5414
Met Ser Ala Cys Asn Ile Ser Ile Gln Gly Pro Ser Ile Tyr Asn Lys
1   5   10   15
Glu Pro Lys Asn Ile Ile Asn Pro His Glu Lys Val Gln Met Lys Ser

```
                20                  25                  30
Ile Cys Ala Asn Ser Pro Ile Lys Ala Gln Gln Asp Gln Leu Gln Val
        35                  40                  45
Lys Asn Asn Ile Lys Ala Ser Leu His Asn Val Lys Ser Ser Leu Pro
        50                  55                  60
Leu Phe Asn Thr Lys Ser Ser Thr Ser Val Gly Gln Leu Gln Ser Pro
65                  70                  75                  80
Thr Leu Asn Ser Pro Ile Tyr Met Gln Lys Gln Gly Lys Asn Glu His
                    85                  90                  95
Leu Ala Phe Asn Thr Lys Ser Lys Ala Ser Thr Val Gly Ser Glu Leu
            100                 105                 110
Val Leu Val Ser Thr Thr Val Pro Thr Val His His Val Ser Asp Leu
            115                 120                 125
Glu Met Ser Ser Thr Leu Asp Cys Leu Pro Val Leu Ala Asp Trp Glu
        130                 135                 140
Asp Val Val Leu Leu Pro Ala Ser Gln Pro Glu Glu Asn Val Asp Cys
145                 150                 155                 160
Thr Val Pro Ile Ser Asp Ser Asp Leu Glu Ile Ser Phe Asn Ser Gly
                165                 170                 175
Glu Arg Leu Met Val Leu Lys Glu Leu Glu Met Ser Ser His Glu Asn
            180                 185                 190
Phe Gly Asp Ile Glu Glu Thr Pro Gln Lys Ser Glu Thr Ser Lys Ser
        195                 200                 205
Ile Val Tyr Lys Ser Pro His Thr Thr Ile Tyr Asn Val Lys Glu Ala
        210                 215                 220
Lys Asp Pro Gly Ser Asp Ile Ser Ala Phe Lys Leu Pro Glu His Lys
225                 230                 235                 240
Ser Ser Thr Phe Asn Arg Val Asn Ala Asn Met Ser His Pro Leu Val
                245                 250                 255
Leu Gly Lys His Pro Leu Leu Ser Gly Gly Thr Lys Arg Asn Pro Cys
            260                 265                 270
Ser Pro Gln Ala Phe Pro Pro Ala Lys Lys Gln Pro Phe Thr Ile His
        275                 280                 285
Glu Glu Lys Pro Thr Ser Ser Asp Cys Ser Pro Val Arg Ser Ser Ser
        290                 295                 300
Trp Arg Arg Leu Pro Ser Ile Leu Thr Ser Thr Val Asn Leu Gln Glu
305                 310                 315                 320
Pro Trp Lys Ser Gly Lys Met Thr Pro Pro Leu Cys Lys Cys Gly Arg
                325                 330                 335
Arg Ser Lys Arg Leu Val Val Ser Asn Asn Gly Pro Asn His Gly Lys
            340                 345                 350
Val Phe Tyr Cys Cys Pro Ile Gly Lys Tyr Gln Glu Asn Arg Lys Cys
        355                 360                 365
Cys Gly Tyr Phe Lys Trp Glu Gln Thr Leu Gln Lys Glu Arg Ala Asn
        370                 375                 380
Ser Met Val Pro Ser His Ser Thr Gly Gly Leu Thr Phe Ser Ser Pro
385                 390                 395                 400
Glu Thr Ser His Ile Cys Asp Arg Asn Leu Ser Ile Ser Thr Lys Asn
                405                 410                 415
Ser Leu Arg Leu Arg Pro Ser Met Arg Asn
            420                 425
```

```
<210> 5415
<211> 1493
```

```
<212> DNA
<213> Homo sapiens

<400> 5415
ntcagcctta cagagactgg aaaagaagcc caaaccaagg ccccagagag gtcccccagg
60
cccctttggt tccctgagcc tcagctggag gtggggggtg cctgcagtgc gctggctcag
120
tctccttctg aaaagctgga tccagcttgt ttgaagccct tgagctgatc ttagatccgg
180
cgcaggagac caacgcctgc catgctgttc cggctctcag agcactcctc accagaggag
240
gaagcctccc cccaccagag agcctcagga gagggcacc atctcaagtc gaagagaccc
300
aacccctgtg cctacacacc accttcgctg aaagctgtgc agcgcattgc tgagtctcac
360
ctgcagtcta tcagcaattt gaatgagaac caggcctcag aggaggagga tgagctgggg
420
gagcttcggg agctgggtta tccaagagag gaagatgagg aggaagagga ggatgatgaa
480
gaagaggaag aagaagagga cagccaggct gaagtcctga aggtcatcag gcagtctgct
540
gggcaaaaga caacctgtgg ccagggtctg gaagggccct gggagcgccc accccctctg
600
gatgagtccg agagagatgg aggctctgag gaccaagtgg aagacccagc actaagtgag
660
cctggggagg aacctcagcg cccttccccc tctgagcctg gcacataggc acccagcctg
720
catctcccag gaggaagtgg aggggacatc gctgttcccc agaaacccac tctatcctca
780
ccctgttttg tgctcttccc ctcgcctgct agggctgcgg cttctgactt ctagaagact
840
aaggctggtc tgtgtttgct tgtttgccca cctttggctg atacccagag aacctgggca
900
cttgctgcct gatgcccacc cctgccagtc attcctccat tcacccagcg ggaggtggga
960
tgtgagacag cccacattgg aaaatccaga aaaccgggaa cagggatttg cccttcacaa
1020
ttctactccc cagatcctct cccctggaca caggagaccc acaggcagg accctaagat
1080
ctggggaaag gaggtcctga gaaccttgag gtacccttag atcctttct acccactttc
1140
ctatggagga ttccaagtca ccacttctct caccggcttc taccagggtc caggactaag
1200
gcgttttct ccatagcctc aacattttgg gaatcttccc ttaatcaccc ttgctcctcc
1260
tgggtgcctg gaagatggac tggcagagac ctctttgttg cgttttgtgc tttgatgcca
1320
ggaatgccgc ctagtttatg tccccggtgg ggcacacagc ggggggcgcc aggttttcct
1380
tgtcccccag ctgctctgcc cctttccect tcttccctga ctccaggcct gaaccctcc
1440
cgtgctgtaa taaatctttg taaataaaaa aaaaaaaaaa aaaaaaaaa aaa
1493
```

4599

<210> 5416
<211> 55
<212> PRT
<213> Homo sapiens

<400> 5416
Xaa Ser Leu Thr Glu Thr Gly Lys Glu Ala Gln Thr Lys Ala Pro Glu
1   5   10   15
Arg Ser Pro Arg Pro Leu Trp Phe Pro Glu Pro Gln Leu Glu Val Gly
            20   25   30
Gly Ala Cys Ser Ala Leu Ala Gln Ser Pro Ser Glu Lys Leu Asp Pro
        35   40   45
Ala Cys Leu Lys Pro Leu Ser
    50   55

<210> 5417
<211> 2087
<212> DNA
<213> Homo sapiens

<400> 5417
tccacgcacc tgccatgtgc caggcactaa tccagatgcc ggggatatat ttgtaaacaa
60
aacctaccac cctcatggat aaagaaggtg gagagtgata aaggagactg ttctagataa
120
catggtcaga gaaggtctct ctgaagaggt gacttttag cagagacttg aaggagatga
180
gagaataagc catgccagca tctgagatga agagcattcc agacagaaag aacagcaagc
240
gcagaggccc tgaggtggcc catatctggc gtgttcaagg agtagccata ggaggccagg
300
atggctgcaa ttgatgagga aggagggaga gagataggag atgaagtcaa tatattggtg
360
aaggaacaga cacagttagg ggtcaagact ctcatgaggt tactcaagga accagagaaa
420
gaacgggact cagactcaga tttctcccct cttcagcaga ctgagggatg ccagcgaaga
480
gacaagcact tccgtcatgc agaaaacccc catcatcctc tcaaaacctc cagcagagcg
540
gcccctctgg agaagcccat cgttctcatg aagccacggg aggaggggaa ggggcctgtg
600
gccgtgacag gtgcctctac ccctgagggc accgccccac cacccctgc agcccctgcg
660
ccacccaagg gggagaagga ggggcagaga cccacacagc ctgtgtacca gatccagaac
720
cggggcatgg gcactgccgc accagcagcc atggaccctg tcgtgggtca ggccaaacta
780
ctgcccccag agcgcatgaa gcacagcatc aagttggtgg atgaccagat gaattggtgt
840
gacagtgcca tcgagtacct gttggatcag actgatgtgt tggtggttgg tgtcctgggc
900
ctccagggga caggcaagtc catggtcatg tcattgttgt cagccaacac tccagaggag
960

```
gaccagagga cttatgtttt ccgggcccag agcgctgaaa tgaaggaacg aggggggcaac
1020
cagaccagtg gcatcgactt ctttattacc caagaacgga ttgttttcct ggacacacag
1080
cccatcctga gcccttctat cctagaccat ctcatcaata atgaccgcaa actgcctcca
1140
gagtacaacc ttccccacac ttacgttgaa atgcagtcac tccagattgc tgccttcctt
1200
ttcacggtct gccatgtggt gattgttgtc caggactggt tcacagacct cagtctctac
1260
aggctgtggg acctggggtg caagtgcaag agcaacagcc actcacccca aaccccaagg
1320
ttcctgcaga cagcagagat ggtgaagccc tccaccccat cccccagcca cgagtccagc
1380
agctcatcgg gctccgatga aggcaccgag tactacccc acctagtctt cttgcagaac
1440
aaagctcgcc gagaggactt ctgtcctcgg aagctgcggc agatgcacct gatgattgac
1500
cagctcatgg cccactccca cctgcgttac aagggaactc tgtccatgtt acaatgcaat
1560
gtcttcccgg ggcttccacc tgacttcctg gactctgagg tcaacttatt cctggtaccc
1620
ttcatggaca gtgaagcaga gagtgaaaac ccaccaagag caggacctgg ttccagccca
1680
ctcttctccc tgctgcctgg gtatcgtggc cacccccagtt tccagtcctt ggtgagcaag
1740
ctccggagcc aagtgatgtc catggcccgg ccacagctgt cacacacgat cctcaccgag
1800
aagaactggt tccactacgc tgcccggatc tgggatgggg tgagaaagtc ctctgctctg
1860
gcagagtaca gccgcctgct ggcctgaggc caaggagagg aatgtcatgc aggggacctc
1920
ctgggtccgc agtgtactgc gagggagcac agatgtccat cccccgctgg ggtggagagc
1980
ggcagcaggc ctgatggatg agggatcgtg gcttcccggc ccagagacat gaggtgtcca
2040
gggccaggcc ccccaccctc agttggggct gttccggggg tgactgt
2087
```

```
<210> 5418
<211> 528
<212> PRT
<213> Homo sapiens

<400> 5418
Met Ala Ala Ile Asp Glu Glu Gly Gly Arg Glu Ile Gly Asp Glu Val
1               5                  10                  15
Asn Ile Leu Val Lys Glu Gln Thr Gln Leu Gly Val Lys Thr Leu Met
            20                  25                  30
Arg Leu Leu Lys Glu Pro Glu Lys Glu Arg Asp Ser Asp Ser Asp Phe
        35                  40                  45
Ser Pro Leu Gln Gln Thr Glu Gly Cys Gln Arg Arg Asp Lys His Phe
    50                  55                  60
Arg His Ala Glu Asn Pro His His Pro Leu Lys Thr Ser Ser Arg Ala
```

4601

```
65                   70                   75                   80
Ala Pro Leu Glu Lys Pro Ile Val Leu Met Lys Pro Arg Glu Glu Gly
                85                    90                    95
Lys Gly Pro Val Ala Val Thr Gly Ala Ser Thr Pro Glu Gly Thr Ala
                100                  105                  110
Pro Pro Pro Pro Ala Ala Pro Ala Pro Pro Lys Gly Glu Lys Glu Gly
                115                  120                  125
Gln Arg Pro Thr Gln Pro Val Tyr Gln Ile Gln Asn Arg Gly Met Gly
                130                  135                  140
Thr Ala Ala Pro Ala Ala Met Asp Pro Val Val Gly Gln Ala Lys Leu
145                  150                  155                  160
Leu Pro Pro Glu Arg Met Lys His Ser Ile Lys Leu Val Asp Asp Gln
                165                  170                  175
Met Asn Trp Cys Asp Ser Ala Ile Glu Tyr Leu Leu Asp Gln Thr Asp
                180                  185                  190
Val Leu Val Val Gly Val Leu Gly Leu Gln Gly Thr Gly Lys Ser Met
                195                  200                  205
Val Met Ser Leu Leu Ser Ala Asn Thr Pro Glu Glu Asp Gln Arg Thr
210                  215                  220
Tyr Val Phe Arg Ala Gln Ser Ala Glu Met Lys Glu Arg Gly Gly Asn
225                  230                  235                  240
Gln Thr Ser Gly Ile Asp Phe Phe Ile Thr Gln Glu Arg Ile Val Phe
                245                  250                  255
Leu Asp Thr Gln Pro Ile Leu Ser Pro Ser Ile Leu Asp His Leu Ile
                260                  265                  270
Asn Asn Asp Arg Lys Leu Pro Pro Glu Tyr Asn Leu Pro His Thr Tyr
                275                  280                  285
Val Glu Met Gln Ser Leu Gln Ile Ala Ala Phe Leu Phe Thr Val Cys
290                  295                  300
His Val Val Ile Val Val Gln Asp Trp Phe Thr Asp Leu Ser Leu Tyr
305                  310                  315                  320
Arg Leu Trp Asp Leu Gly Cys Lys Cys Lys Ser Asn Ser His Ser Pro
                325                  330                  335
Gln Thr Pro Arg Phe Leu Gln Thr Ala Glu Met Val Lys Pro Ser Thr
                340                  345                  350
Pro Ser Pro Ser His Glu Ser Ser Ser Ser Gly Ser Asp Glu Gly
                355                  360                  365
Thr Glu Tyr Tyr Pro His Leu Val Phe Leu Gln Asn Lys Ala Arg Arg
                370                  375                  380
Glu Asp Phe Cys Pro Arg Lys Leu Arg Gln Met His Leu Met Ile Asp
385                  390                  395                  400
Gln Leu Met Ala His Ser His Leu Arg Tyr Lys Gly Thr Leu Ser Met
                405                  410                  415
Leu Gln Cys Asn Val Phe Pro Gly Leu Pro Pro Asp Phe Leu Asp Ser
                420                  425                  430
Glu Val Asn Leu Phe Leu Val Pro Phe Met Asp Ser Glu Ala Glu Ser
                435                  440                  445
Glu Asn Pro Pro Arg Ala Gly Pro Gly Ser Ser Pro Leu Phe Ser Leu
                450                  455                  460
Leu Pro Gly Tyr Arg Gly His Pro Ser Phe Gln Ser Leu Val Ser Lys
465                  470                  475                  480
Leu Arg Ser Gln Val Met Ser Met Ala Arg Pro Gln Leu Ser His Thr
                485                  490                  495
Ile Leu Thr Glu Lys Asn Trp Phe His Tyr Ala Ala Arg Ile Trp Asp
```

```
                   500                505                510
         Gly Val Arg Lys Ser Ser Ala Leu Ala Glu Tyr Ser Arg Leu Leu Ala
                 515                520                525
```

<210> 5419
<211> 989
<212> DNA
<213> Homo sapiens

<400> 5419

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ttttcgtcca ggagtcggag gagcaagtcc aggtcccgtt cccgaaggcg ccaccagcgg
60
aagtacaggc gctactcgcg gtcatactcg cggagccggt cgcgatcccg cagccgccgt
120
taccgagaga ggcgctacgg gttcaccagg agatactacc ggtctccttc gcggtaccgg
180
tcccggtccc gtagcaggtc gcgctctcgg ggaaggtcgt actgcggaag ggcgtacgcg
240
atcgcgcggg gacagcgcta ctacggcttt ggtcgcacag tgtacccgga ggagcacagc
300
agatggaggg acagatccag gacgaggtcg cggagcagaa cccccttttcg cttaagtgaa
360
aaagatcgaa tggagctgtt agaaatagca aaaaccaatg cagcgaaagc tctaggaaca
420
accaacattg acttgccagc tagtctcaga actgttcctt cagccaaaga aacaagccgt
480
ggaataggtg tatcaagtaa tggtgcaaag cctgaaaaat catgaatgtg gtctgcagac
540
attgatgaag aaaatctgtt gctgtcggaa aaggtaacag aagatggaac tcgaaatccc
600
aatgaaaaac ctacccagca aagaagcata gcttttagct ctaataattc tgtagcaaag
660
ccaatacaaa aatcagctaa agctgccaca gaagaggcat cttcaagatc accaaaaata
720
gatcagaaaa aaagtccata tggactgtgg atacctatct aaaagaagaa aactgatggc
780
taagtttgca tgaaaactgc actttattgc aagttagtgt ttctagcatt atcccatccc
840
tttgagccat tcaggggtac ttgtgcattt aaaaaccaac acaaaaagat gtaaatactt
900
aacactcaaa tattaacatt ttaggtttct cttgcagata tgagagatag cacagatgga
960
ccaaaggtta tgcacaggtg ggagtcttt
989
```

<210> 5420
<211> 174
<212> PRT
<213> Homo sapiens

<400> 5420

```
Phe Ser Ser Arg Ser Arg Arg Ser Lys Ser Arg Ser Arg Ser Arg Arg
1               5                  10                 15
Arg His Gln Arg Lys Tyr Arg Arg Tyr Ser Arg Ser Tyr Ser Arg Ser
```

4603

```
                20                      25                      30
Arg Ser Arg Ser Arg Ser Arg Arg Tyr Arg Glu Arg Arg Tyr Gly Phe
        35                      40                      45
Thr Arg Arg Tyr Tyr Arg Ser Pro Ser Arg Tyr Arg Ser Arg Ser Arg
        50                      55                      60
Ser Arg Ser Arg Ser Arg Gly Arg Ser Tyr Cys Gly Arg Ala Tyr Ala
65                      70                      75                      80
Ile Ala Arg Gly Gln Arg Tyr Tyr Gly Phe Gly Arg Thr Val Tyr Pro
                85                      90                      95
Glu Glu His Ser Arg Trp Arg Asp Arg Ser Arg Thr Arg Ser Arg Ser
                100                     105                     110
Arg Thr Pro Phe Arg Leu Ser Glu Lys Asp Arg Met Glu Leu Leu Glu
        115                     120                     125
Ile Ala Lys Thr Asn Ala Ala Lys Ala Leu Gly Thr Thr Asn Ile Asp
        130                     135                     140
Leu Pro Ala Ser Leu Arg Thr Val Pro Ser Ala Lys Glu Thr Ser Arg
145                     150                     155                     160
Gly Ile Gly Val Ser Ser Asn Gly Ala Lys Pro Glu Lys Ser
                165                     170
```

<210> 5421
<211> 1239
<212> DNA
<213> Homo sapiens

<400> 5421

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nccagctgcc gctgtcgtct ttgcttcagc cgcagtcgcc actggctgcc tgaggtgctc
60
ttacagcctg ttccaagtgt ggcttaatcc gtctccacca ccagatcttt ctccgtggat
120
tcctctgcta agaccgctgc catgccagtg acggtaaccc gcaccaccat cacaaccacc
180
acgacgtcat cttcgggcct ggggtccccc atgatcgtgg ggtcccctcg ggccctgaca
240
cagcccctgg gtctccttcg cctgctgcag ctggtgtcta cctgcgtggc cttctcgctg
300
gtggctagcg tgggcgcctg gacggggtcc atgggcaact ggtccatgtt cacctggtgc
360
ttctgcttct ccgtgaccct gatcatcctc atcgtggagc tgtgcgggct ccaggcccgc
420
ttccccctgt cttggcgcaa cttccccatc accttcgcct gctatgcggc cctcttctgc
480
ctctcggcct ccatcatcta ccccaccacc tatgtccagt tcctgtccca cggccgttcg
540
cgggaccacg ccatcgccgc caccttcttc tcctgcatcg cgtgtgtggc ttacgccacc
600
gaagtggcct ggacccgggc ccggcccggc gagatcactg ctatatggc caccgtaccc
660
gggctgctga aggtgctgga ccttcgtt gcctgcatca tcttcgcgtt catcagcgac
720
cccaacctgt accagcacca gccggccctg gagtggtgcg tggcggtgta cgccatctgc
780
ttcatcctag cggccatcgc catcctgctg aacctggggg agtgcaccaa cgtgctaccc
840
```

atccccttcc ccagcttcct gtcggggctg gccttgtgtc tgtcctcctc tatgccaccg
900
cccttgttct ctggcccctc taccagttcg atgagaagta tggcggccag cctcggcgct
960
cgagagatgt aagctgcagc cgcagccatg cctactacgt gtgtgcctgg gaccgccgac
1020
tggctgtggc catcctgacg gccatcaacc tactggcgta tgtggctgac ctggtgcact
1080
ctgcccacct ggttttgtc aaggtttaag actctcccaa gaggctcccg ttccctctcc
1140
aacctctttg ttcttgttgc ccgagttttc tttatggagt acttctttcc cccgcctttc
1200
gtctgttttc cttttcctgt ctcccctccc ttcacgcgt
1239

<210> 5422
<211> 276
<212> PRT
<213> Homo sapiens

<400> 5422
Met Pro Val Thr Val Thr Arg Thr Thr Ile Thr Thr Thr Thr Ser
1   5   10   15
Ser Ser Gly Leu Gly Ser Pro Met Ile Val Gly Ser Pro Arg Ala Leu
            20   25   30
Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val Ser Thr Cys
        35   40   45
Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp Thr Gly Ser Met
    50   55   60
Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys Phe Ser Val Thr Leu
65   70   75   80
Ile Ile Leu Ile Val Glu Leu Cys Gly Leu Gln Ala Arg Phe Pro Leu
                85   90   95
Ser Trp Arg Asn Phe Pro Ile Thr Phe Ala Cys Tyr Ala Ala Leu Phe
            100   105   110
Cys Leu Ser Ala Ser Ile Ile Tyr Pro Thr Thr Tyr Val Gln Phe Leu
        115   120   125
Ser His Gly Arg Ser Arg Asp His Ala Ile Ala Ala Thr Phe Phe Ser
    130   135   140
Cys Ile Ala Cys Val Ala Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala
145   150   155   160
Arg Pro Gly Glu Ile Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu
                165   170   175
Lys Val Leu Glu Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser
                180   185   190
Asp Pro Asn Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala
            195   200   205
Val Tyr Ala Ile Cys Phe Ile Leu Ala Ala Ile Ala Ile Leu Leu Asn
    210   215   220
Leu Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
225   230   235   240
Ser Gly Leu Ala Leu Cys Leu Ser Ser Ser Met Pro Pro Pro Leu Phe
                245   250   255
Ser Gly Pro Ser Thr Ser Ser Met Arg Ser Met Ala Ala Ser Leu Gly

```
                    260                 265                 270
Ala Arg Glu Met
          275


<210> 5423
<211> 2427
<212> DNA
<213> Homo sapiens


<400> 5423
nccgcggctt tgcagagcag gatgaatgtg atagaccacg tgcgggacat ggcggccgcg
60
gggctgcact ccaacgtgcg gctcctcagc agcttgttac ttacaatgag taataacaac
120
cctgagttat tctccccacc tcagaagtac cagcttttgg tgtatcatgc agattctctc
180
tttcatgata aggaatatcg gaatgctgtg agtaagtata ccatggcttt acagcagaag
240
aaagcgctaa gtaaaacttc aaaagtgaga ccttcaactg gaaattctgc atctactcca
300
caaagtcagt gtcttccatc tgaaattgaa gtgaaataca aaatggctga atgttataca
360
atgctaaaac aagataaaga tgccattgct atacttgatg ggatcccttc aagacaaaga
420
actcccaaaa taaacatgat gctggcaaac ctgtacaaga aggctggtca ggagcgccct
480
tcagtcacca gctataagga ggtgctgagg cagtgcccat tagcccttga tgccattcta
540
ggcttgttgt ccctttctgt aaaaggggca gaggtggcat ccatgacaat gaatgtgatc
600
caaaccgtgc ctaacttgga ctggctctct gtgtggatca aagcgtatgc ttttgtgcac
660
actggtgaca actcaagagc aatcagtacc atctgttcac tagagaaaaa atccttattg
720
cgagataacg tggacctatt gggaagcttg gcagatctgt acttcagagc tggagacaat
780
aaaaactctg tcctcaagtt tgaacaggca cagatgttgg atccttatct gataaaagga
840
atggatgtat atggctacct actggcacga gaagggcggc tagaggatgt tgagaacctt
900
ggatgccgcc ttttcaatat ctctgatcag catgcagaac cgtgggtggt ttctggctgt
960
cacagcttct atagcaaacg ctactcccgg gccctctatt taggagccaa ggccattcag
1020
ctgaacagta atagtgttca agctctgcta cttaagggag cagcacttag gaacatgggc
1080
agagtccaag aagcaataat ccactttcgg gaggccatac ggctcgcacc ttgtcgctta
1140
gattgttatg aaggtcttat cgaatgttac ttagcctcca acagtattcg agaagcaatg
1200
gtaatggcta acaacgttta caaaactctg ggagcaaatg cacagaccct tacccttta
1260
gccaccgttt gtcttgaaga cccagtgaca caggagaaag ccaaaacatt attagataaa
1320
```

```
gccctgaccc aaaggccaga ttacattaag gctgtggtga aaaaagcaga actacttagc
1380
agagaacaga aatatgaaga tggaattgct ttgctgagga acgcactggc taatcagagt
1440
gactgtgtcc tgcatcggat cctaggagat ttccttgtag ctgtcaatga gtatcaggag
1500
gcaatggacc agtatagtat agcactaagt ttggacccca atgaccagaa gtctctagag
1560
gggatgcaga agatggagaa ggaggagagt cccacggatg ccactcagga ggaggatgtg
1620
gacgacatgg aagggagtgg ggaagaaggg gacctggagg cagcgacag tgaggcggcc
1680
cagtgggctg accaggagca gtggttcggc atgagtgagg gggcggcagc tccatggccg
1740
cagtggcctg ccctgctctg agcacttccg tggactgaag gaaccgtagg agcctgctct
1800
cagaaggaca atgattcagc atgtgattgc agcaggggtc tctgcccccct cgctcccaat
1860
tcctagtcgt gacttcattt ctaaaacaga gcctgaccaa ccttccatgt atctccatcc
1920
tcccctgctc cagccaggga ggactgaggg agtgccccga gacccacgca catgttgggg
1980
cttctgggcc aagagtactt tttatataac taatttctaa atccaaaagc tcaaggaata
2040
gacagtgttc tgtgacatgg attggtttga aggagttacc caccatccca gcacgataat
2100
gtcatctccc aagttggatg gcagcacgat ctggccctag ggagcttcct gttcccagaa
2160
gtcattgtcc tgggctatcc agatgtccct agtaaatctt gcttccttct gcaatgttag
2220
taatgcctta agctgacagt tgctattttg cagaacagtt ttcctctttg cttagctagt
2280
aacttgcctc tgagcctggg ctgatctgag aaacaggtgt gacaagagca tgaaccagag
2340
gtgcacctgg ggcagttccc taataaaact ggtttgtaca gtcatggtgt tggggtgatc
2400
agaatggaag ccctttttcaa aataaaa
2427
```

```
<210> 5424
<211> 570
<212> PRT
<213> Homo sapiens
```

```
<400> 5424
Met Ala Ala Ala Gly Leu His Ser Asn Val Arg Leu Leu Ser Ser Leu
1               5                   10                  15
Leu Leu Thr Met Ser Asn Asn Asn Pro Glu Leu Phe Ser Pro Pro Gln
            20                  25                  30
Lys Tyr Gln Leu Leu Val Tyr His Ala Asp Ser Leu Phe His Asp Lys
        35                  40                  45
Glu Tyr Arg Asn Ala Val Ser Lys Tyr Thr Met Ala Leu Gln Gln Lys
    50                  55                  60
Lys Ala Leu Ser Lys Thr Ser Lys Val Arg Pro Ser Thr Gly Asn Ser
```

```
65                      70                      75                      80
Ala Ser Thr Pro Gln Ser Gln Cys Leu Pro Ser Glu Ile Glu Val Lys
                        85                      90                      95
Tyr Lys Met Ala Glu Cys Tyr Thr Met Leu Lys Gln Asp Lys Asp Ala
                100                     105                     110
Ile Ala Ile Leu Asp Gly Ile Pro Ser Arg Gln Arg Thr Pro Lys Ile
            115                     120                     125
Asn Met Met Leu Ala Asn Leu Tyr Lys Lys Ala Gly Gln Glu Arg Pro
        130                     135                     140
Ser Val Thr Ser Tyr Lys Glu Val Leu Arg Gln Cys Pro Leu Ala Leu
145                     150                     155                     160
Asp Ala Ile Leu Gly Leu Leu Ser Leu Ser Val Lys Gly Ala Glu Val
                165                     170                     175
Ala Ser Met Thr Met Asn Val Ile Gln Thr Val Pro Asn Leu Asp Trp
                180                     185                     190
Leu Ser Val Trp Ile Lys Ala Tyr Ala Phe Val His Thr Gly Asp Asn
            195                     200                     205
Ser Arg Ala Ile Ser Thr Ile Cys Ser Leu Glu Lys Lys Ser Leu Leu
        210                     215                     220
Arg Asp Asn Val Asp Leu Leu Gly Ser Leu Ala Asp Leu Tyr Phe Arg
225                     230                     235                     240
Ala Gly Asp Asn Lys Asn Ser Val Leu Lys Phe Glu Gln Ala Gln Met
                245                     250                     255
Leu Asp Pro Tyr Leu Ile Lys Gly Met Asp Val Tyr Gly Tyr Leu Leu
                260                     265                     270
Ala Arg Glu Gly Arg Leu Glu Asp Val Glu Asn Leu Gly Cys Arg Leu
                275                     280                     285
Phe Asn Ile Ser Asp Gln His Ala Glu Pro Trp Val Val Ser Gly Cys
            290                     295                     300
His Ser Phe Tyr Ser Lys Arg Tyr Ser Arg Ala Leu Tyr Leu Gly Ala
305                     310                     315                     320
Lys Ala Ile Gln Leu Asn Ser Asn Ser Val Gln Ala Leu Leu Leu Lys
                325                     330                     335
Gly Ala Ala Leu Arg Asn Met Gly Arg Val Gln Glu Ala Ile Ile His
            340                     345                     350
Phe Arg Glu Ala Ile Arg Leu Ala Pro Cys Arg Leu Asp Cys Tyr Glu
        355                     360                     365
Gly Leu Ile Glu Cys Tyr Leu Ala Ser Asn Ser Ile Arg Glu Ala Met
    370                     375                     380
Val Met Ala Asn Asn Val Tyr Lys Thr Leu Gly Ala Asn Ala Gln Thr
385                     390                     395                     400
Leu Thr Leu Leu Ala Thr Val Cys Leu Glu Asp Pro Val Thr Gln Glu
                405                     410                     415
Lys Ala Lys Thr Leu Leu Asp Lys Ala Leu Thr Gln Arg Pro Asp Tyr
            420                     425                     430
Ile Lys Ala Val Val Lys Lys Ala Glu Leu Leu Ser Arg Glu Gln Lys
        435                     440                     445
Tyr Glu Asp Gly Ile Ala Leu Leu Arg Asn Ala Leu Ala Asn Gln Ser
    450                     455                     460
Asp Cys Val Leu His Arg Ile Leu Gly Asp Phe Leu Val Ala Val Asn
465                     470                     475                     480
Glu Tyr Gln Glu Ala Met Asp Gln Tyr Ser Ile Ala Leu Ser Leu Asp
                485                     490                     495
Pro Asn Asp Gln Lys Ser Leu Glu Gly Met Gln Lys Met Glu Lys Glu
```

4608

```
            500                    505                    510
Glu Ser Pro Thr Asp Ala Thr Gln Glu Glu Asp Val Asp Asp Met Glu
        515                    520                    525
Gly Ser Gly Glu Glu Gly Asp Leu Glu Gly Ser Asp Ser Glu Ala Ala
    530                    535                    540
Gln Trp Ala Asp Gln Glu Gln Trp Phe Gly Met Ser Glu Gly Ala Ala
545                    550                    555                    560
Ala Pro Trp Pro Gln Trp Pro Ala Leu Leu
                565                    570
```

```
<210> 5425
<211> 639
<212> DNA
<213> Homo sapiens

<400> 5425
cggccgccca tgtgatcaaa cggtatacag cccaggcgcc agatgagctg tcctttgagg
60
tgaggctgtg gggaagcaga ttccagctgg gctccccaca ccccctgctc cttctgaccc
120
ttctcttccc acccgccctc tcccaggtgg gagacattgt ctcggtgatc gacatgccac
180
ccacagagga tcggagctgg tggcggggca agcgaggctt ccaggtcggg ttcttcccca
240
gtgagtgtgt ggaactcttc acagagcggc caggtccggg cctgaaggcg gatgccgatg
300
gcccccatg tggcatcccg gctccccagg gtatctcgtc tctgacctca gctgtgccac
360
ggcctcgtgg gaagctggcc ggcctgctcc gcaccttcat gcgctcccgc ccttctcggc
420
agcggctgcg gcagcgggga atcctgcgac agagggtgtt tggctgcgat cttggcgagc
480
acctcagcaa ctcaggccag gatgtgccca gtgctgcgct gctgctccga gttcattgag
540
gccnacgggg tggtggatgg gatctaccgg ctctcaggcg tgtcttccaa catccagagg
600
cttcggcacg agtttgacag tgagaggata ccggagctg
639
```

```
<210> 5426
<211> 98
<212> PRT
<213> Homo sapiens

<400> 5426
Pro Gln Leu Cys His Gly Leu Val Gly Ser Trp Pro Ala Cys Ser Ala
1               5                    10                    15
Pro Ser Cys Ala Pro Ala Leu Leu Gly Ser Gly Cys Gly Ser Gly Glu
            20                    25                    30
Ser Cys Asp Arg Gly Cys Leu Ala Ala Ile Leu Ala Ser Thr Ser Ala
        35                    40                    45
Thr Gln Ala Arg Met Cys Pro Val Leu Arg Cys Cys Ser Glu Phe Ile
    50                    55                    60
Glu Ala Xaa Gly Val Val Asp Gly Ile Tyr Arg Leu Ser Gly Val Ser
```

4609

```
65                   70                   75                   80
Ser Asn Ile Gln Arg Leu Arg His Glu Phe Asp Ser Glu Arg Ile Pro
                85                   90                   95
Glu Leu
```

```
<210> 5427
<211> 366
<212> DNA
<213> Homo sapiens
```

```
<400> 5427
tgatcactgt attgcactcc agtctgggca acagagcaag actctgtcat aaacaaacca
60
acaaacaaat caaaaattct tgttgagtac ctgctacatg ctaagtgctc ctctaggtgc
120
tgaggataca tcagagggca aaatggatac agatactctg aaaaaacgtg cattctagct
180
gggattgggt cctccacact gtgtccaaaa ggtatgttgg ggttgctgaa gtagataaac
240
tggtattggc agcaggaaca gcatttatgg aacagagggg aagacacatt caaggaatga
300
aacatcgtct ggctggatca tgaaatgcaa ggcagatatg gcacaggagg cagacaaagg
360
gttgaa
366
```

```
<210> 5428
<211> 101
<212> PRT
<213> Homo sapiens
```

```
<400> 5428
Met Phe His Ser Leu Asn Val Ser Ser Pro Leu Phe His Lys Cys Cys
1               5                   10                  15
Ser Cys Cys Gln Tyr Gln Phe Ile Tyr Phe Ser Asn Pro Asn Ile Pro
                20                  25                  30
Phe Gly His Ser Val Glu Asp Pro Ile Pro Ala Arg Met His Val Phe
            35                  40                  45
Ser Glu Tyr Leu Tyr Pro Phe Cys Pro Leu Met Tyr Pro Gln His Leu
        50                  55                  60
Glu Glu His Leu Ala Cys Ser Arg Tyr Ser Thr Arg Ile Phe Asp Leu
65                  70                  75                  80
Phe Val Gly Leu Phe Met Thr Glu Ser Cys Ser Val Ala Gln Thr Gly
                85                  90                  95
Val Gln Tyr Ser Asp
                100
```

```
<210> 5429
<211> 612
<212> DNA
<213> Homo sapiens
```

```
<400> 5429
```

```
ccggcgggcg gcaaggctcc gggccagcat gggggcttcg tggtgactgt caagcaagag
60
cgcggcgagg gtccacgcgc gggcgagaag gggtcccacg aggaggaggt gagagtccct
120
gcgctgagct gggggaggcc ccgggctccc gccccagcct cgaagccccg ccccaggctg
180
gatttgaatt gcttgtggct ccgcccacag cccattttcc tctggaagct gagaccccgc
240
cccgtgccag ctgccacgcc cctgacaggt cctctgccac tctaagtcca ggccccgccc
300
accgcacaat gccagctctg cccactctaa ggtcccgccc acttccactc cttgggggcg
360
gcaccctccc cttggtcctg tgggcccgtt ctccagcaga aaaccacgcc caccaagcag
420
aggccacgcc cacaaccgaa gtcaacgcca accctgtact caaacctcgg cccatagttc
480
ctcagatccc ctcacccctg gccagggatc cctctaaccc accgtgtccc gactgctgac
540
cgggccctac ctccatcttt tccgggttct tcctcccagc taggccccgc ccccatcccc
600
gcccatacgc gt
612


<210> 5430
<211> 94
<212> PRT
<213> Homo sapiens

<400> 5430
Pro Ala Gly Gly Lys Ala Pro Gly Gln His Gly Gly Phe Val Val Thr
1               5                   10                  15
Val Lys Gln Glu Arg Gly Glu Gly Pro Arg Ala Gly Glu Lys Gly Ser
            20                  25                  30
His Glu Glu Glu Val Arg Val Pro Ala Leu Ser Trp Gly Arg Pro Arg
        35                  40                  45
Ala Pro Ala Pro Ala Ser Lys Pro Arg Pro Arg Leu Asp Leu Asn Cys
    50                  55                  60
Leu Trp Leu Arg Pro Gln Pro Ile Phe Leu Trp Lys Leu Arg Pro Arg
65                  70                  75                  80
Pro Val Pro Ala Ala Thr Pro Leu Thr Gly Pro Leu Pro Leu
                85                  90


<210> 5431
<211> 3005
<212> DNA
<213> Homo sapiens

<400> 5431
nngcacgatg tcatccagca gctgccccca ccacattaca ggaccctgga gtacctgctg
60
aggcacctgg cccgcatggc gagacacagt gccaacacca gcatgcatgc ccgcaacctg
120
gccattgtct gggcacccaa cctgctacgg tccatggagc tggagtcagt gggaatgggt
180
```

```
ggcgcggcgg cgttccggga agttcgggtg cagtcggtgg tggtggagtt tctgctcacc
240
catgtggacg tcctgttcag cgacaccttc acctccgccg gcctcgaccc tgcaggccgc
300
tgcctgctcc ccaggcccaa gtcccttgcg ggcagctgcc cctccacccg cctgctgacg
360
ctggaggaag cccaggcacg cacccagggc cggctgggga cgcccacgga gcccacaact
420
cccaaggccc cggcctcacc tgcggaaagg aggaaagggg agagagggga gaagcagcgg
480
aagccagggg gcagcagctg gaagacgttc tttgcactgg gccggggccc cagtgtccct
540
cgaaagaagc ccctgccctg gctggggggc acccgtgccc caccgcagcc ttcaggcagc
600
agacccgaca ccgtcacact gagatctgcc aagagcgagg agtctctgtc atcgcaggcc
660
agcggggctg gcctccagag gctgcacagg ctgcggcgac cccactccag cagcgacgct
720
ttccctgtgg gcccagcacc tgctggctcc tgcgagagcc tgtcctcgtc ctcctcctcc
780
gagtcctcct cctctgagtc ctcctcttcc tcctctgagt cctcagcagc tgggctgggg
840
gcactctctg ggtctccctc acaccgtacc tcagcctggc tagatgatgg tgatgagctg
900
gacttcagcc caccccgctg cctggaggga ctccgggggc tggactttga tcccttaacc
960
ttccgctgca gcagccccac cccaggggat cccgcacctc ccgccagccc agcaccccc
1020
gcccctgcct ctgccttccc acccagggtg accccccagg ccatctcgcc ccggggccc
1080
accagccccg cctcgcctgc tgccctagac atctcagagc ccctggctgt atcagtgcca
1140
cccgctgtcc tagaactgct gggggctggg ggagcacctg cctcagccac cccaacacca
1200
gctctcagcc ccggccggag cctgcgcccc catctcatac ccctgctgct gcgaggagcc
1260
gaggccccgc tgactgacgc ctgccagcag gagatgtgca gcaagctccg gggagcccag
1320
ggcccactcg gtcctgatat ggagtcacca ctgccacccc ctccctgtc tctcctgcgc
1380
cctggggtg ccccacccc gccccctaag aacccagcac gcctcatggc cctggccctg
1440
gctgagcggg ctcagcaggt ggccgagcaa cagagccagc aggagtgtgg gggcacccca
1500
cctgcttccc aatccccctt ccaccgctcg ctgtctctgg aggtgggcgg ggagcccctg
1560
gggacctcag ggagtgggcc acctcccaac tccctagcac acccgggtgc ctgggtcccg
1620
ggaccccac cctacttacc aaggcaacaa agtgatggga gcctgctgag gagccagcgg
1680
cccatgggga cctcaaggag gggactccga ggccctgccc aggtcagtgc gcagctcagg
1740
gcaggtggcg ggggcaggga tgcgccagag gcagcagccc agtccccatg ttctgtcccc
1800
```

4612

tcacaggttc ctacccccgg cttcttctcc ccagccccca gggagtgcct gccacccttc
1860
ctcggggtcc ccaagccagg cttgtacccc ctgggccccc catccttcca gcccagttcc
1920
ccagccccag tctggaggag ctctctgggc cccctgcac cactcgacag gggagagaac
1980
ctgtactatg agatcggggc aagtgagggg tccccctatt ctggccccac ccgctcctgg
2040
agtcccttc gctccatgcc ccccgacagg ctcaatgcct cctacggcat gcttggccaa
2100
tcaccccac tccacaggtc ccccgacttc ctgctcagct acccgccagc ccctcctgc
2160
tttccccctg accaccttgg ctactcagcc ccccagcacc ctgctcggcg ccctacaccg
2220
cctgagcccc tctacgtcaa cctagctcta gggcccaggg gtccctcacc tgcctcttcc
2280
tcctcctctt cccctcctgc ccacccccga agccgttcag atcccggtcc cccagtcccc
2340
cgccttcccc agaaacaacg ggcaccctgg ggaccccgta ccctcatag ggtgccgggt
2400
ccctggggcc ctcctgagcc tctcctgctc tacagggcag ccccgccagc ctacggaagg
2460
gggggcgagc tccaccgagg gtccttgtac agaaatggag ggcaaagagg ggaggggct
2520
ggtcccccac cccttaccc cactcccagc tggtccctcc actctgaggg ccagacccga
2580
agctactgct gagcaccagc tgggaggggc cgtccttcct tcccttcacc ctcactggat
2640
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2700
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2760
ctggactgaa gggtctgccc atccccccac caccctccat cctggggggcc ctcgcacaaa
2820
tctggggtgg gaggggctag gctgacccca tcctcctctc cctccaggag cccccagcat
2880
gtcctgacct gtgcacgggg atggggggac aactcctacc cttctttccc cacatgcccc
2940
actaaaccat ctgacaacat taatgaataa aatggtgaaa atgtgaaaaa aaaaaaaaaa
3000
aaaaa
3005

<210> 5432
<211> 863
<212> PRT
<213> Homo sapiens

<400> 5432
Xaa His Asp Val Ile Gln Gln Leu Pro Pro Pro His Tyr Arg Thr Leu
 1   5   10   15
Glu Tyr Leu Leu Arg His Leu Ala Arg Met Ala Arg His Ser Ala Asn
            20   25   30
Thr Ser Met His Ala Arg Asn Leu Ala Ile Val Trp Ala Pro Asn Leu

                                   4613

```
              35                    40                    45
Leu Arg Ser Met Glu Leu Glu Ser Val Gly Met Gly Gly Ala Ala Ala
    50                    55                    60
Phe Arg Glu Val Arg Val Gln Ser Val Val Val Glu Phe Leu Leu Thr
65                    70                    75                    80
His Val Asp Val Leu Phe Ser Asp Thr Phe Thr Ser Ala Gly Leu Asp
                  85                    90                    95
Pro Ala Gly Arg Cys Leu Leu Pro Arg Pro Lys Ser Leu Ala Gly Ser
              100                   105                   110
Cys Pro Ser Thr Arg Leu Leu Thr Leu Glu Glu Ala Gln Ala Arg Thr
          115                   120                   125
Gln Gly Arg Leu Gly Thr Pro Thr Glu Pro Thr Thr Pro Lys Ala Pro
      130                   135                   140
Ala Ser Pro Ala Glu Arg Arg Lys Gly Glu Arg Gly Glu Lys Gln Arg
145                   150                   155                   160
Lys Pro Gly Gly Ser Ser Trp Lys Thr Phe Phe Ala Leu Gly Arg Gly
                  165                   170                   175
Pro Ser Val Pro Arg Lys Lys Pro Leu Pro Trp Leu Gly Gly Thr Arg
              180                   185                   190
Ala Pro Pro Gln Pro Ser Gly Ser Arg Pro Asp Thr Val Thr Leu Arg
          195                   200                   205
Ser Ala Lys Ser Glu Glu Ser Leu Ser Ser Gln Ala Ser Gly Ala Gly
      210                   215                   220
Leu Gln Arg Leu His Arg Leu Arg Arg Pro His Ser Ser Ser Asp Ala
225                   230                   235                   240
Phe Pro Val Gly Pro Ala Pro Ala Gly Ser Cys Glu Ser Leu Ser Ser
                  245                   250                   255
Ser Ser Ser Ser Glu Ser Ser Ser Ser Glu Ser Ser Ser Ser Ser Ser
              260                   265                   270
Glu Ser Ser Ala Ala Gly Leu Gly Ala Leu Ser Gly Ser Pro Ser His
          275                   280                   285
Arg Thr Ser Ala Trp Leu Asp Asp Gly Asp Glu Leu Asp Phe Ser Pro
      290                   295                   300
Pro Arg Cys Leu Glu Gly Leu Arg Gly Leu Asp Phe Asp Pro Leu Thr
305                   310                   315                   320
Phe Arg Cys Ser Ser Pro Thr Pro Gly Asp Pro Ala Pro Pro Ala Ser
                  325                   330                   335
Pro Ala Pro Pro Ala Pro Ala Ser Ala Phe Pro Pro Arg Val Thr Pro
              340                   345                   350
Gln Ala Ile Ser Pro Arg Gly Pro Thr Ser Pro Ala Ser Pro Ala Ala
          355                   360                   365
Leu Asp Ile Ser Glu Pro Leu Ala Val Ser Val Pro Pro Ala Val Leu
      370                   375                   380
Glu Leu Leu Gly Ala Gly Gly Ala Pro Ala Ser Ala Thr Pro Thr Pro
385                   390                   395                   400
Ala Leu Ser Pro Gly Arg Ser Leu Arg Pro His Leu Ile Pro Leu Leu
                  405                   410                   415
Leu Arg Gly Ala Glu Ala Pro Leu Thr Asp Ala Cys Gln Gln Glu Met
              420                   425                   430
Cys Ser Lys Leu Arg Gly Ala Gln Gly Pro Leu Gly Pro Asp Met Glu
          435                   440                   445
Ser Pro Leu Pro Pro Pro Pro Leu Ser Leu Leu Arg Pro Gly Gly Ala
      450                   455                   460
Pro Pro Pro Pro Pro Lys Asn Pro Ala Arg Leu Met Ala Leu Ala Leu
```

```
465                    470                    475                    480
Ala Glu Arg Ala Gln Gln Val Ala Glu Gln Gln Ser Gln Gln Glu Cys
                485                    490                    495
Gly Gly Thr Pro Pro Ala Ser Gln Ser Pro Phe His Arg Ser Leu Ser
            500                    505                    510
Leu Glu Val Gly Gly Glu Pro Leu Gly Thr Ser Gly Ser Gly Pro Pro
        515                    520                    525
Pro Asn Ser Leu Ala His Pro Gly Ala Trp Val Pro Gly Pro Pro Pro
    530                    535                    540
Tyr Leu Pro Arg Gln Gln Ser Asp Gly Ser Leu Leu Arg Ser Gln Arg
545                    550                    555                    560
Pro Met Gly Thr Ser Arg Arg Gly Leu Arg Gly Pro Ala Gln Val Ser
                565                    570                    575
Ala Gln Leu Arg Ala Gly Gly Gly Arg Asp Ala Pro Glu Ala Ala
            580                    585                    590
Ala Gln Ser Pro Cys Ser Val Pro Ser Gln Val Pro Thr Pro Gly Phe
        595                    600                    605
Phe Ser Pro Ala Pro Arg Glu Cys Leu Pro Pro Phe Leu Gly Val Pro
    610                    615                    620
Lys Pro Gly Leu Tyr Pro Leu Gly Pro Pro Ser Phe Gln Pro Ser Ser
625                    630                    635                    640
Pro Ala Pro Val Trp Arg Ser Ser Leu Gly Pro Pro Ala Pro Leu Asp
                645                    650                    655
Arg Gly Glu Asn Leu Tyr Tyr Glu Ile Gly Ala Ser Glu Gly Ser Pro
                660                    665                    670
Tyr Ser Gly Pro Thr Arg Ser Trp Ser Pro Phe Arg Ser Met Pro Pro
            675                    680                    685
Asp Arg Leu Asn Ala Ser Tyr Gly Met Leu Gly Gln Ser Pro Pro Leu
    690                    695                    700
His Arg Ser Pro Asp Phe Leu Leu Ser Tyr Pro Pro Ala Pro Ser Cys
705                    710                    715                    720
Phe Pro Pro Asp His Leu Gly Tyr Ser Ala Pro Gln His Pro Ala Arg
                725                    730                    735
Arg Pro Thr Pro Pro Glu Pro Leu Tyr Val Asn Leu Ala Leu Gly Pro
            740                    745                    750
Arg Gly Pro Ser Pro Ala Ser Ser Ser Ser Ser Pro Pro Ala His
            755                    760                    765
Pro Arg Ser Arg Ser Asp Pro Gly Pro Pro Val Pro Arg Leu Pro Gln
    770                    775                    780
Lys Gln Arg Ala Pro Trp Gly Pro Arg Thr Pro His Arg Val Pro Gly
785                    790                    795                    800
Pro Trp Gly Pro Pro Glu Pro Leu Leu Leu Tyr Arg Ala Ala Pro Pro
                805                    810                    815
Ala Tyr Gly Arg Gly Gly Glu Leu His Arg Gly Ser Leu Tyr Arg Asn
            820                    825                    830
Gly Gly Gln Arg Gly Glu Gly Ala Gly Pro Pro Pro Pro Tyr Pro Thr
        835                    840                    845
Pro Ser Trp Ser Leu His Ser Glu Gly Gln Thr Arg Ser Tyr Cys
    850                    855                    860
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<210> 5433
<211> 385
<212> DNA
<213> Homo sapiens
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120
ctgggtataa gaagctcctc tggtctccag agttctcgga gtaacccctc catccaagcc
180
acgctcaata agactgtgct ttcctcttcc ttaaataacc acccacagac atctgttccc
240
aacgcatctg ctcttcaccc ttcgctccgt ctgttttccc ttagcaaccc atctctttcc
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tctcctggcc ctgaagcaca tcaag
385


<210> 5434
<211> 128
<212> PRT
<213> Homo sapiens

<400> 5434
Asp Leu Thr Asn Leu His Tyr Ser Thr Pro Leu Pro Ala Ser Leu Asp
 1               5                  10                  15
Thr Thr Asp His His Phe Gly Ser Met Ser Val Gly Asn Ser Val Asn
                20                  25                  30
Asn Ile Pro Ala Ala Met Thr His Leu Gly Ile Arg Ser Ser Ser Gly
            35                  40                  45
Leu Gln Ser Ser Arg Ser Asn Pro Ser Ile Gln Ala Thr Leu Asn Lys
        50                  55                  60
Thr Val Leu Ser Ser Ser Leu Asn Asn His Pro Gln Thr Ser Val Pro
65                  70                  75                  80
Asn Ala Ser Ala Leu His Pro Ser Leu Arg Leu Phe Ser Leu Ser Asn
                85                  90                  95
Pro Ser Leu Ser Thr Thr Asn Leu Ser Gly Pro Ser Arg Arg Arg Gln
            100                 105                 110
Pro Pro Val Ser Pro Leu Thr Leu Ser Pro Gly Pro Glu Ala His Gln
        115                 120                 125

<210> 5435
<211> 617
<212> DNA
<213> Homo sapiens

<400> 5435
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120
ccttgtataa gtatactttg tataacttct ggcaaaccat aattatgaac tcacattact
180
atagtactat aatactgcag aaagggatct tgcgtttcag aaatgtcact catccagttt
240
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tcctcccctt tctctaaccc catctccctc ccaggctcat ggtttctgtt gcaatcctct
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ttctccttac acaaggcaag aagttttctt accaatagat cagacctgtg aaggactgcc
360
cgacatgatc tgatatggtt gttcttcatt ttgggctgta gtattttaaa gtagaggttt
420
gctctgatgg tcccatcact gcttgccatt gtctttccct ttgctctagc tatcagggga
480
tgttgcttta agtttgttcc ccaggcttta ctgccaagag ggaaattcat acccacttta
540
acaaggtgtg aagcttatct tacagttgct aatgcctcac tgaccttttg gaaaggtcat
600
agttaccctt cacgcgt
617


<210> 5436
<211> 119
<212> PRT
<213> Homo sapiens

<400> 5436
Met Asn Phe Pro Leu Gly Ser Lys Ala Trp Gly Thr Asn Leu Lys Gln
 1               5                  10                  15
His Pro Leu Ile Ala Arg Ala Lys Gly Lys Thr Met Ala Ser Ser Asp
             20                  25                  30
Gly Thr Ile Arg Ala Asn Leu Tyr Phe Lys Ile Leu Gln Pro Lys Met
         35                  40                  45
Lys Asn Asn His Ile Arg Ser Cys Arg Ala Val Leu His Arg Ser Asp
     50                  55                  60
Leu Leu Val Arg Lys Leu Leu Ala Leu Cys Lys Glu Lys Glu Asp Cys
65                  70                  75                  80
Asn Arg Asn His Glu Pro Gly Arg Glu Met Gly Leu Glu Lys Gly Glu
             85                  90                  95
Glu Asn Trp Met Ser Asp Ile Ser Glu Thr Gln Asp Pro Phe Leu Gln
            100                 105                 110
Tyr Tyr Ser Thr Ile Val Met
         115


<210> 5437
<211> 1422
<212> DNA
<213> Homo sapiens

<400> 5437
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gccctgggag ctaacgtaga gctttggata atgcttttgc aagttgtacg agaagggaag
120
ttctcggggt ttctgacctc ctgcagcctc ctcttgcctc gggctgccca gatcttggcg
180
gctgaggctg gcttaccttc gagccgttcc ttcatgggat ttgctgctcc cttcaccaac
240
aagcgaaagg cttactcgga gcgtagaatc atggggtact caatgcagga gatgtatgag
300
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BNSDOCID: <WO___0058473A2_I_>

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gtatccagcc gtaagggtca tttgaaagcc cagctggagg ttggctttcc acctgtcatg
420
gaacgttaca cctctgcagt ttccatggtc aaacctcaca tggtcaaggc tgtttgtact
480
gatggcaagc tcttcaacca cttagagact atttggcgat tcagccctgg tattcctgcc
540
tatcctcgaa cctgcactgt ggacttttcg atttcctttg aatttcgttc tctgctgcac
600
tcccagctgg ccaccatgtt ttttgatgag gttgtcaaac agaatgttgc tgcctttgag
660
cgtcgggcag ccaccaagtt tggtccagaa acagccatcc ccgtgaact gatgttccat
720
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780
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840
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1140
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aagcctcatt ttaagactgt aagtccatgc tgcctggcta ctagagagca aggggctttc
1260
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1422

<210> 5438
<211> 245
<212> PRT
<213> Homo sapiens

<400> 5438
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1   5   10   15
Gly Ser Asn His Ala Leu Gly Ala Asn Val Glu Leu Trp Ile Met Leu
            20   25   30
Leu Gln Val Val Arg Glu Gly Lys Phe Ser Gly Phe Leu Thr Ser Cys
        35   40   45
Ser Leu Leu Leu Pro Arg Ala Ala Gln Ile Leu Ala Ala Glu Ala Gly
    50   55   60
Leu Pro Ser Ser Arg Ser Phe Met Gly Phe Ala Ala Pro Phe Thr Asn

```
65                    70                    75                    80
Lys Arg Lys Ala Tyr Ser Glu Arg Arg Ile Met Gly Tyr Ser Met Gln
                85                        90                    95
Glu Met Tyr Glu Val Val Ser Asn Val Gln Glu Tyr Arg Glu Phe Val
            100                   105                   110
Pro Trp Cys Lys Lys Ser Leu Val Val Ser Ser Arg Lys Gly His Leu
        115                   120                   125
Lys Ala Gln Leu Glu Val Gly Phe Pro Pro Val Met Glu Arg Tyr Thr
    130                   135                   140
Ser Ala Val Ser Met Val Lys Pro His Met Val Lys Ala Val Cys Thr
145                   150                   155                   160
Asp Gly Lys Leu Phe Asn His Leu Glu Thr Ile Trp Arg Phe Ser Pro
                165                   170                   175
Gly Ile Pro Ala Tyr Pro Arg Thr Cys Thr Val Asp Phe Ser Ile Ser
            180                   185                   190
Phe Glu Phe Arg Ser Leu Leu His Ser Gln Leu Ala Thr Met Phe Phe
        195                   200                   205
Asp Glu Val Val Lys Gln Asn Val Ala Ala Phe Glu Arg Arg Ala Ala
    210                   215                   220
Thr Lys Phe Gly Pro Glu Thr Ala Ile Pro Arg Glu Leu Met Phe His
225                   230                   235                   240
Glu Val His Gln Thr
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<210> 5439
<211> 4234
<212> DNA
<213> Homo sapiens

<400> 5439
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120
atcaaagttg tgggaaaatg gaaggaagtg aagattgacc caaatatgtt tgcagatgga
180
cagatggatg acttggtgtg ctttgaggaa ttgacagatt accagttggt ctcccctgcc
240
aagaatccct ccagtctctt ctcaaaggaa gcacccaaga gaaaggcaca agctgtttca
300
gaagaagagg aggaggagga gggaaagtct agctcaccaa agaaaaagat caagttgaag
360
aaaagtaaaa atgtagcaac tgaaggaacc agtacccaga agaatttga agtgaaagat
420
cctgagctgg aggcccaggg agatgacatg gtttgtgatg atccggaggc tggggagatg
480
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540
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600
gaagttcatg atcagaaagc agatgtgtca gcttggaagg acctgtttgt tcccaggccg
660
gttctccgag cactcagctt tctaggcttc tctgcaccca caccaatcca agccctgacc
720
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1380
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1560
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2340
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3780
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3840
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3900
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3960
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4080
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4200
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4234

<210> 5440
<211> 461
<212> PRT
<213> Homo sapiens

<400> 5440
Leu Ala Val Gln Val Lys Gln His Ile Asp Ala Val Ala Arg Phe Thr
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Gly Ile Lys Thr Ala Ile Leu Val Gly Gly Met Ser Thr Gln Lys Gln
            20   25   30
Gln Arg Met Leu Asn Arg Arg Pro Glu Ile Val Val Ala Thr Pro Gly
        35   40   45
Arg Leu Trp Glu Leu Ile Lys Glu Lys His Tyr His Leu Arg Asn Leu
    50   55   60
Arg Gln Leu Arg Cys Leu Val Val Asp Glu Ala Asp Arg Met Val Glu
65   70   75   80
Lys Gly His Phe Ala Glu Leu Ser Gln Leu Leu Glu Met Leu Asn Asp
                85   90   95
Ser Gln Tyr Asn Pro Lys Arg Gln Thr Leu Val Phe Ser Ala Thr Leu
            100   105   110
Thr Leu Val His Gln Ala Pro Ala Arg Ile Leu His Lys Lys His Thr
            115   120   125
Lys Lys Met Asp Lys Thr Ala Lys Leu Asp Leu Leu Met Gln Lys Ile
        130   135   140
Gly Met Arg Gly Lys Pro Lys Val Ile Asp Leu Thr Arg Asn Glu Ala
145   150   155   160
Thr Val Glu Thr Leu Thr Glu Thr Lys Ile His Cys Glu Thr Asp Glu
                165   170   175
Lys Asp Phe Tyr Leu Tyr Tyr Phe Leu Met Gln Tyr Pro Gly Arg Ser
            180   185   190
Leu Val Phe Ala Asn Ser Ile Ser Cys Ile Lys Arg Leu Ser Gly Leu
        195   200   205
Leu Lys Val Leu Asp Ile Met Pro Leu Thr Leu His Ala Cys Met His
        210   215   220
Gln Lys Gln Arg Leu Arg Asn Leu Glu Gln Phe Ala Arg Leu Glu Asp
225   230   235   240
Cys Val Leu Leu Ala Thr Asp Val Ala Ala Arg Gly Leu Asp Ile Pro
                245   250   255
Lys Val Gln His Val Ile His Tyr Gln Val Pro Arg Thr Ser Glu Ile
                260   265   270
Tyr Val His Arg Ser Gly Arg Thr Ala Arg Ala Thr Asn Glu Gly Leu
            275   280   285
Ser Leu Met Leu Ile Gly Pro Glu Asp Val Ile Asn Phe Lys Lys Ile

4622

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        290                 295                 300
Tyr Lys Thr Leu Lys Lys Asp Glu Asp Ile Pro Leu Phe Pro Val Gln
305                 310                 315                 320
Thr Lys Tyr Met Asp Val Val Lys Glu Arg Ile Arg Leu Ala Arg Gln
                325                 330                 335
Ile Glu Lys Ser Glu Tyr Arg Asn Phe Gln Ala Cys Leu His Asn Ser
                340                 345                 350
Trp Ile Glu Gln Ala Ala Ala Ala Leu Glu Ile Glu Leu Glu Glu Asp
            355                 360                 365
Met Tyr Lys Gly Gly Lys Ala Asp Gln Gln Glu Glu Arg Arg Arg Gln
        370                 375                 380
Lys Gln Met Lys Val Leu Lys Lys Glu Leu Arg His Leu Leu Ser Gln
385                 390                 395                 400
Pro Leu Phe Thr Glu Ser Gln Lys Thr Lys Tyr Pro Thr Gln Ser Gly
                405                 410                 415
Lys Pro Pro Leu Leu Val Ser Ala Pro Ser Lys Ser Glu Ser Ala Leu
                420                 425                 430
Ser Cys Leu Ser Lys Gln Lys Lys Lys Lys Thr Lys Lys Pro Lys Glu
            435                 440                 445
Pro Gln Pro Glu Gln Pro Gln Pro Ser Thr Ser Ala Asn
        450                 455                 460
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<210> 5441
<211> 1635
<212> DNA
<213> Homo sapiens

<400> 5441
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120
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180
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240
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300
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360
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420
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480
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acaaagagac catacaccgt gatccttatt gagagagcca tgaaggacat ccactattcg
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660
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720
aagaagctga agaaaagct caagccactg atcaaggtca tagaaagtga agattatggc
780
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1080
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1440
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aaaaaaaaaa aaaaa
1635


<210> 5442
<211> 250
<212> PRT
<213> Homo sapiens


<400> 5442
Met Ser Ile Phe Thr Pro Thr Asn Gln Ile Arg Leu Thr Asn Val Ala
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Val Val Arg Met Lys Arg Ala Gly Lys Arg Phe Glu Ile Ala Cys Tyr
            20                  25                  30
Lys Asn Lys Val Val Gly Trp Arg Ser Gly Val Glu Lys Asp Leu Asp
        35                  40                  45
Glu Val Leu Gln Thr His Ser Val Phe Val Asn Val Ser Lys Gly Gln
    50                  55                  60
Val Ala Lys Lys Glu Asp Leu Ile Ser Ala Phe Gly Thr Asp Asp Gln
65                  70                  75                  80
Thr Glu Ile Cys Lys Gln Ile Leu Thr Lys Gly Glu Val Gln Val Ser
                85                  90                  95
Asp Lys Glu Arg His Thr Gln Leu Glu Gln Met Phe Arg Asp Ile Ala
            100                 105                 110
Thr Ile Val Ala Asp Lys Cys Val Asn Pro Glu Thr Lys Arg Pro Tyr
        115                 120                 125
Thr Val Ile Leu Ile Glu Arg Ala Met Lys Asp Ile His Tyr Ser Val
```

4624

```
     130                      135                  140
Lys Thr Asn Lys Ser Thr Lys Gln Gln Ala Leu Glu Val Ile Lys Gln
145                 150                  155                  160
Leu Lys Glu Lys Met Lys Ile Glu Arg Ala His Met Arg Leu Arg Phe
                165                  170                  175
Ile Leu Pro Val Asn Glu Gly Lys Lys Leu Lys Glu Lys Leu Lys Pro
                180                  185                  190
Leu Ile Lys Val Ile Glu Ser Glu Asp Tyr Gly Gln Gln Leu Glu Ile
            195                  200                  205
Val Cys Leu Ile Asp Pro Gly Cys Phe Arg Glu Ile Asp Glu Leu Ile
        210                  215                  220
Lys Lys Glu Thr Lys Gly Lys Gly Ser Leu Glu Val Leu Asn Leu Lys
225                  230                  235                  240
Asp Val Glu Glu Gly Asp Glu Lys Phe Glu
                245                  250
```

<210> 5443
<211> 2021
<212> DNA
<213> Homo sapiens

<400> 5443
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cagatgcaga cactcactca gcctctgcct cagagaggta ccatgggtcc tggccacatt
60
agggaagtag gcacttgaac cacctgctgt ctctctagct tatgccttga ggcggtggat
120
ggggaggtgg cgtgttccct ctcatctgca ataggatggt ccgaggtagc agtcctgaag
180
ggaacagcag ggatggtagg caggaagaat ggaggtctga ccaggctggc ggctgggaat
240
gaagccaggg cctttgcttc ccttggcacc tctcacaggc cctgccctct gctccacagg
300
ctggaggaag tcccctgga ggtgctgagg cagagggagt ccaagtggct ggacatgctc
360
aacaactggg acaaatggat ggccaagaag cacaaaaaga ttcgtctgcg gtgccaaaag
420
ggcatcccgc cttctctgcg gggccgtgct tggcagtacc tgtcaggagg caaggtgaag
480
ttacagcaga accctggaaa gtttgacgag ctggacatgt cccctgggga ccccaagtgg
540
ctggacgtga ttgagcgtga cctgcaccgg cagttcccat tccatgagat gtttgtgtcc
600
cggggggcc acggccagca ggacctattc cgtgtgctga aggcctacac gctgtaccgg
660
cccgaggagg gctactgcca ggcccaggcg cccattgccg ctgtcttgct catgcatatg
720
cctgctgagc aagccttctg gtgcctggta cagatctgtg agaagtacct gcccggctac
780
tacagcgaga aactggaggc gatccagctg gacggggaga tccttttctc gctgttgcag
840
aaggtgtcgc cggtggccca caagcacctc agccgtcaga agatcgaccc gctcctctat
900
atgacagaat ggttcatgtg cgccttctcc cgaaccttgc cttggagctc tgtgctgcgt
960
```

```
gtctgggaca tgttcttctg tgaaggggtc aagatcatct tccgggtggg gctggtgctg
1020
ctgaagcacg cgctgggctc ccctgagaag gtcaaagcct gccagggcca gtacgagacc
1080
atcgagcgac tgcggagcct cagccccaag atcatgcagg aggcctttct ggtccaggag
1140
gtggtggagt tgcccgtgac agagcgccag attgagcgcg aacacctcat tcagctgcgg
1200
cgctggcagg agacccgggg tgagctgcag tgccgctccc cgcccaggct gcatggtgcc
1260
aaggctatct tggatgcaga acctggtccc cggcctgccc tacaaccttc accatccatc
1320
cgcctgcccc tagatgcccc cctccctggc tccaaagcca gcccaagcc acccaagcag
1380
gcccagaagg agcagcggaa acagatgaag gggagagggc agctggagaa gcccccagcc
1440
ccaaatcaag ccatggtggt ggccgctgca ggagatgcat gtcccccaca gcatgtgccc
1500
ccgaaggact cagcccccaa ggactcagcc cctcaggatt tggctcccca ggtctcagcc
1560
caccaccgct cccaggagag cttgacgtcc caagagagtg aggacaccta cttgtaaccc
1620
tggcagctaa ggcctccagg gcggggtctc catataacta cacggttcat gaactgacat
1680
tccacatcct gcccaccctc tgagggccaa gctgcctggc cactgggctg ggctggagtc
1740
tggctggtcc aacacagatt ctgcctggtc caacacagat tctgcctgag cctccttatt
1800
tattttcttt acagtggcac tcaggctggc ccagccaggg caggcagaag ctagggcctg
1860
gggggtgggg cctccttcag ccccctcctc ctgggggatg ctccccaggg ttagggtgct
1920
ggtgtgaggg gaaagggtgg ggtgttcttt gtgtaaaata gaaacatggt tttgtacaga
1980
aataaacagc cttgtataga gaaaaaaaaa aaaaaaaaa a
2021
```

```
<210> 5444
<211> 438
<212> PRT
<213> Homo sapiens
```

```
<400> 5444
Leu Glu Glu Val Pro Leu Glu Val Leu Arg Gln Arg Glu Ser Lys Trp
1               5                   10                  15
Leu Asp Met Leu Asn Asn Trp Asp Lys Trp Met Ala Lys Lys His Lys
            20                  25                  30
Lys Ile Arg Leu Arg Cys Gln Lys Gly Ile Pro Pro Ser Leu Arg Gly
            35                  40                  45
Arg Ala Trp Gln Tyr Leu Ser Gly Gly Lys Val Lys Leu Gln Gln Asn
        50                  55                  60
Pro Gly Lys Phe Asp Glu Leu Asp Met Ser Pro Gly Asp Pro Lys Trp
65                  70                  75                  80
Leu Asp Val Ile Glu Arg Asp Leu His Arg Gln Phe Pro Phe His Glu
```

```
                      85                  90                  95
Met Phe Val Ser Arg Gly Gly His Gly Gln Gln Asp Leu Phe Arg Val
                 100                 105                 110
Leu Lys Ala Tyr Thr Leu Tyr Arg Pro Glu Glu Gly Tyr Cys Gln Ala
                 115                 120                 125
Gln Ala Pro Ile Ala Ala Val Leu Leu Met His Met Pro Ala Glu Gln
             130                 135                 140
Ala Phe Trp Cys Leu Val Gln Ile Cys Glu Lys Tyr Leu Pro Gly Tyr
145                 150                 155                 160
Tyr Ser Glu Lys Leu Glu Ala Ile Gln Leu Asp Gly Glu Ile Leu Phe
                 165                 170                 175
Ser Leu Leu Gln Lys Val Ser Pro Val Ala His Lys His Leu Ser Arg
             180                 185                 190
Gln Lys Ile Asp Pro Leu Leu Tyr Met Thr Glu Trp Phe Met Cys Ala
             195                 200                 205
Phe Ser Arg Thr Leu Pro Trp Ser Ser Val Leu Arg Val Trp Asp Met
210                 215                 220
Phe Phe Cys Glu Gly Val Lys Ile Ile Phe Arg Val Gly Leu Val Leu
225                 230                 235                 240
Leu Lys His Ala Leu Gly Ser Pro Glu Lys Val Lys Ala Cys Gln Gly
             245                 250                 255
Gln Tyr Glu Thr Ile Glu Arg Leu Arg Ser Leu Ser Pro Lys Ile Met
             260                 265                 270
Gln Glu Ala Phe Leu Val Gln Glu Val Val Glu Leu Pro Val Thr Glu
             275                 280                 285
Arg Gln Ile Glu Arg Glu His Leu Ile Gln Leu Arg Arg Trp Gln Glu
             290                 295                 300
Thr Arg Gly Glu Leu Gln Cys Arg Ser Pro Pro Arg Leu His Gly Ala
305                 310                 315                 320
Lys Ala Ile Leu Asp Ala Glu Pro Gly Pro Arg Pro Ala Leu Gln Pro
             325                 330                 335
Ser Pro Ser Ile Arg Leu Pro Leu Asp Ala Pro Leu Pro Gly Ser Lys
             340                 345                 350
Ala Lys Pro Lys Pro Pro Lys Gln Ala Gln Lys Glu Gln Arg Lys Gln
             355                 360                 365
Met Lys Gly Arg Gly Gln Leu Glu Lys Pro Pro Ala Pro Asn Gln Ala
             370                 375                 380
Met Val Val Ala Ala Ala Gly Asp Ala Cys Pro Pro Gln His Val Pro
385                 390                 395                 400
Pro Lys Asp Ser Ala Pro Lys Asp Ser Ala Pro Gln Asp Leu Ala Pro
             405                 410                 415
Gln Val Ser Ala His His Arg Ser Gln Glu Ser Leu Thr Ser Gln Glu
             420                 425                 430
Ser Glu Asp Thr Tyr Leu
             435
```

```
<210> 5445
<211> 1187
<212> DNA
<213> Homo sapiens

<400> 5445
gcaaggtcaa gccagctcag gggacatggt gggcaggggg ctccagatcc cacggtgggc
60
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4627

agaaaaggcg ggggtcggac tgacgccgtc ctgggccatg tccacgtctg gggtctgcag
120
gttccatctc cctttccact gtgcctaacc ttacatctat tacctacatc cagcaagaca
180
cgattttcca cgatgagttg attcgtaatt ccatttatgt gctagttttt agaattttcc
240
tgtgggtttt tttttactta cttatgattt taattttgtt tgctttaaaa aaaacacatg
300
cataggaaag aatgcttcct ttcatttcaa ttaaaaacaa caaattgctt ttttttaagc
360
aaaaattcat tgaggggggg gctcgcgttg tacaaagaaa atcagaccca ccgggatggc
420
tgtgatcaaa gagacagtaa caagggtagg gaggtggaga tgcgaatcca aacacacaac
480
ttgtgcaaag gtcaagtggc cacagccgcc acggaaaaca ggctggcggt tcctccgacg
540
ttcaacacac agtcgccacg ggacacagtg gttccacccc caggtgtgca gcaatagaca
600
tcacagccca cgtccgcacg cagactcgga cacgcgtgct cacagcccac gttcgcacgc
660
agactcagac atgcgtgctc acagcctcag tcatgacagc cagacagtgg aaacaaggca
720
ggtgggcctc ggctgctgag ggagcaacag cagaacggtg ctcagccctg gagaggaagg
780
acgcctggac cctggcccca caccacagca tccacaatgt ggtgccaacc aacaggccac
840
gcacacagag gccatgggcc agacgcttcc actgacacga aatgcccaag agaggcacag
900
ccggcgacag aacggggacc cgtgtctgcc gccccaggag aggctgcagg ccggaaactg
960
gaggattaca gggcgcgagt gtcgtttttag ggagatgaaa atgttctaaa attggctgtg
1020
gcaattgttg cacaactctg caaatatact aaaaaccact gaattgtaca tttcaaaatg
1080
ggtgaattgt acggtgcttg tattatacct caataaagct atttttaaag aaacaaaatt
1140
ttaaatacgt aaaaaaatca gaaagtgaaa tctggaatta acattcc
1187

<210> 5446
<211> 107
<212> PRT
<213> Homo sapiens

<400> 5446
Met Ala Val Ile Lys Glu Thr Val Thr Arg Val Gly Arg Trp Arg Cys
1   5   10   15
Glu Ser Lys His Thr Thr Cys Ala Lys Val Lys Trp Pro Gln Pro Pro
            20   25   30
Arg Lys Thr Gly Trp Arg Phe Leu Arg Arg Ser Thr His Ser Arg His
        35   40   45
Gly Thr Gln Trp Phe His Pro Gln Val Cys Ser Asn Arg His His Ser
    50   55   60
Pro Arg Pro His Ala Asp Ser Asp Thr Arg Ala His Ser Pro Arg Ser

4628

```
65                    70                    75                    80
His Ala Asp Ser Asp Met Arg Ala His Ser Leu Ser His Asp Ser Gln
                      85                    90                    95
Thr Val Glu Thr Arg Gln Val Gly Leu Gly Cys
                100                   105
```

<210> 5447
<211> 1444
<212> DNA
<213> Homo sapiens

<400> 5447
nngcaggtaa gtggtaccat catatgcccg ggacaatttg gcttgcttgt ccaagtttgc
60
aatttgctgc tttgtgaaag tgggcttcaa cacatacgtg atatcctcca atgaggaatc
120
gatgatctca tagttgtact ttgcagtaag aagacttttc agatcaccaa acaaggagat
180
ggcgttgact ttctgtcttg gtttctgaat gctctgcact cagctctggg gggcacaaag
240
aagaaaaaga agactattgt gactgatgtt ttccagggggt ccatgaggat cttcactaaa
300
aagcttcccc atcctgatct gccagcagaa gaaaaagagc agttgctcca taatgacgag
360
taccaggaga caatggtgga gtccactttt atgtacctga cgctggacct tcctactgcc
420
cccctctaca aggacgagaa ggagcagctc atcattcccc aagtgccact cttcaacatc
480
ctggctaagt tcaatggcat cactgagaag gaatataaga cttacaagga gaactttctg
540
aagcgcttcc agcttaccaa gttgcctcca tatctaatct tttgtatcaa gagattcact
600
aagaacaact tctttgttga gaagaatcca actnattgtc aatttcccta ttacaaatgt
660
ggatctgaga gaatacttgt ctgaagaagt acaagcagta cacaagaata ccacctatga
720
cctcattgcc aacatcgtgc atgacggcaa gccctccgag ggctcctacc ggatccacgt
780
gcttcatcat gggacaggca aatggtatga attacaagac ctccaggtga ctgacatcct
840
tccccagatg atcacactgt cagaggctta cattcagatt tggaagaggc gagataatga
900
tgaaaccaac cagcaggggg cttgaaggag gcgtctaggg ctttgctccc aagggctgtg
960
gctgatgatg gtaaataaga acacagaagc tgtagctgaa cacaggctgg ctggtgggct
1020
tcctaggcca gcccagcttg tatgggttct ggctacacca gagcaccaag agcccacttg
1080
cctgggatgg ccccacactg tcactcagct gttctttgat cattttttttc tagattgatg
1140
ctcctttctc ccatgcattg agctcccatc tagcttcagc agggcagaac ccttctccag
1200
atgtgtgtaa cttatgtctt gagtatctgg gagtagttga agaacagata attccttcca
1260
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aacatcaagc cttgggattc ttggagcaag cagaaagcca gtaacttcgc tctgttagag
1320
gtggaggatt ttcctatggt tccccccatt tcctgatttg tattttttaga tggattaaat
1380
agtctcctgt ttttaaacca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1440
aaaa
1444


<210> 5448
<211> 189
<212> PRT
<213> Homo sapiens

<400> 5448
Gly Ile Asp Asp Leu Ile Val Val Leu Cys Ser Lys Lys Thr Phe Gln
 1               5                   10                  15
Ile Thr Lys Gln Gly Asp Gly Val Asp Phe Leu Ser Trp Phe Leu Asn
            20                  25                  30
Ala Leu His Ser Ala Leu Gly Gly Thr Lys Lys Lys Lys Thr Ile
        35                  40                  45
Val Thr Asp Val Phe Gln Gly Ser Met Arg Ile Phe Thr Lys Lys Leu
        50                  55                  60
Pro His Pro Asp Leu Pro Ala Glu Glu Lys Glu Gln Leu Leu His Asn
65                  70                  75                  80
Asp Glu Tyr Gln Glu Thr Met Val Glu Ser Thr Phe Met Tyr Leu Thr
                85                  90                  95
Leu Asp Leu Pro Thr Ala Pro Leu Tyr Lys Asp Glu Lys Glu Gln Leu
            100                 105                 110
Ile Ile Pro Gln Val Pro Leu Phe Asn Ile Leu Ala Lys Phe Asn Gly
            115                 120                 125
Ile Thr Glu Lys Glu Tyr Lys Thr Tyr Lys Glu Asn Phe Leu Lys Arg
        130                 135                 140
Phe Gln Leu Thr Lys Leu Pro Pro Tyr Leu Ile Phe Cys Ile Lys Arg
145                 150                 155                 160
Phe Thr Lys Asn Asn Phe Phe Val Glu Lys Asn Pro Thr Xaa Cys Gln
                165                 170                 175
Phe Pro Tyr Tyr Lys Cys Gly Ser Glu Arg Ile Leu Val
            180                 185


<210> 5449
<211> 1359
<212> DNA
<213> Homo sapiens

<400> 5449
tctccagagg aggaccagag gacttatgtt ttccgggccc agagcgctga aatgaaggaa
60
cgaggggggca accagaccag tggcatcgac ttctttatta cccaagaacg gattgttttc
120
ctggacacac agcccatcct gagcccttct atcctagacc atctcatcaa taatgaccgc
180
aaactgcctc cagagtacaa ccttccccac acttacgttg aaatgcagtc actccagatt
240

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gctgccttcc ttttcacggt ctgccatgtg gggattnntg tccaggactg gttcacagac
300
ctcagtctct acaggttcct gcagacagca gagatggtga agccctccac cccatccccc
360
agccacgagt ccagcagctc atcgggctcc gatgaaggca ccgagtacta cccccaccta
420
gtcttcttcc agaacaaagc tcgccgagag gacttctgtc ctcggaagct gcggcagatg
480
cacctgatga ttgaccagct catggcccac tcccacctgc gttacaaggg aactctgtcc
540
atgttacaat gcaatgtctt cccggggctt ccacctgact tcctggactc tgaggtcaac
600
ttattcctgg tacccttcat ggacagtgaa gcagagagtg aaaacccacc aagagcagga
660
cctggttcca gcccactctt ctccctgctg cctgggtatc gtggccaccc cagtttccag
720
tccttggtga gcaagctccg gagccaagtg atgtccatgg cccggccaca gctgtcacac
780
acgatcctca ccgagaagaa ctggttccac tacgctgccc ggatctggga tggggtgaga
840
aagtcctctg ctctggcaga gtacagccgc ctgctggcct gaggccaagg agaggaatgt
900
catgcagggg acctcctggg tccgcagtgt actgcgaggg agcacagatg tccatccccc
960
gctggggtgg agagcggcag caggcctgat ggatgaggga tcgtggcttc ccggcccaga
1020
gacatgaggt gtccagggcc aggcccccca ccctcagttg gggctgttcc gggggtgact
1080
gtgagcgatc ccaccccaaa cctgagatgg ggcagcccgt cctgtgtcct ccacagggac
1140
aagcagtggg aggagtctga atggtcacca ggaagcccgg gctccatctt gacctccttt
1200
ttcagggaca ggagcaacag gcccctcttc cctgactcta agcccttccc tgtaaggtga
1260
ggcagggtct ggagagctct ttattggaac agatctggtg gttcaaataa acacagtcat
1320
gcaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa
1359


<210> 5450
<211> 293
<212> PRT
<213> Homo sapiens

<400> 5450
Ser Pro Glu Glu Asp Gln Arg Thr Tyr Val Phe Arg Ala Gln Ser Ala
1               5                   10                  15
Glu Met Lys Glu Arg Gly Gly Asn Gln Thr Ser Gly Ile Asp Phe Phe
            20                  25                  30
Ile Thr Gln Glu Arg Ile Val Phe Leu Asp Thr Gln Pro Ile Leu Ser
        35                  40                  45
Pro Ser Ile Leu Asp His Leu Ile Asn Asn Asp Arg Lys Leu Pro Pro
    50                  55                  60
Glu Tyr Asn Leu Pro His Thr Tyr Val Glu Met Gln Ser Leu Gln Ile
```

4631

```
65                      70                  75                      80
Ala Ala Phe Leu Phe Thr Val Cys His Val Gly Ile Xaa Val Gln Asp
                    85                  90                  95
Trp Phe Thr Asp Leu Ser Leu Tyr Arg Phe Leu Gln Thr Ala Glu Met
                100                 105                 110
Val Lys Pro Ser Thr Pro Ser Pro Ser His Glu Ser Ser Ser Ser Ser
            115                 120                 125
Gly Ser Asp Glu Gly Thr Glu Tyr Tyr Pro His Leu Val Phe Phe Gln
        130                 135                 140
Asn Lys Ala Arg Arg Glu Asp Phe Cys Pro Arg Lys Leu Arg Gln Met
    145                 150                 155                 160
His Leu Met Ile Asp Gln Leu Met Ala His Ser His Leu Arg Tyr Lys
                165                 170                 175
Gly Thr Leu Ser Met Leu Gln Cys Asn Val Phe Pro Gly Leu Pro Pro
                180                 185                 190
Asp Phe Leu Asp Ser Glu Val Asn Leu Phe Leu Val Pro Phe Met Asp
            195                 200                 205
Ser Glu Ala Glu Ser Glu Asn Pro Pro Arg Ala Gly Pro Gly Ser Ser
        210                 215                 220
Pro Leu Phe Ser Leu Leu Pro Gly Tyr Arg Gly His Pro Ser Phe Gln
    225                 230                 235                 240
Ser Leu Val Ser Lys Leu Arg Ser Gln Val Met Ser Met Ala Arg Pro
                245                 250                 255
Gln Leu Ser His Thr Ile Leu Thr Glu Lys Asn Trp Phe His Tyr Ala
                260                 265                 270
Ala Arg Ile Trp Asp Gly Val Arg Lys Ser Ser Ala Leu Ala Glu Tyr
                275                 280                 285
Ser Arg Leu Leu Ala
        290


<210> 5451
<211> 1184
<212> DNA
<213> Homo sapiens

<400> 5451
ncacgcctgg ctaaattttg tatttttggt agagacgggg tttcacgtgt tggccaggct
60
ggtctcgaac tgctgacctc aagtgatctg tccgcctcag cctcccaaag tgctgggatt
120
acagatgtga gccatcatgc ccggctaatt ttttgtatt ttagtagaga cagggtttca
180
ccgtgttagc caggatggtc ttgatctcct gaccttgtga tccaccagcc tcagcctccc
240
aaagtgctgg gattacaggc gtgagccact gtgcccggcc aagaattttt ttatcgataa
300
catagtgagc tctctgcctc ttcggaacga tgtccacttt gcttatgatc aacccaagca
360
ggactcttct ctccctggac gcctctcccc tggtctggaa tcttccagtt ctgccagaat
420
tggcctttcc cagatgctgc aaacttccag ttgaacccct ttttctgtgt ggcccctggg
480
gctgcgagac caaaatccat gagttctgtg taccctagac ctttggaagg tgagagcagg
540
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gccctgagaa aaggcagcca cctcctctcc ctggctgaac ccctgccacc ctactcctca
600
ccagaattgt cagtggcctt tcaccacagt ggtccttcct gcctgagccc tgcactgtcc
660
cagaccacac agaagtctgg tcacctctgg gcgcctggga tggtcaccga agagaagcac
720
gctgtccccg tctctcctgg cttctgccag aaaatcgaac aagtgcaatt aacacactgt
780
tactgccgaa gcctgaaact cccaggactt gtccttgatc cttccagaaa ccaccaggtc
840
cggcacttgg agcccccccgg agagggacct cccagccgag ccctcaaaga actccatgaa
900
atcaggaact gcttgatgaa atgtatctcc ttgtacctgg aagatgaagc ccaaacaccc
960
acacctctgt ctcccccagg gctcgggatg tctccagcag cccggccacg cagcttccca
1020
ggtgggctcg gggaggtggg agcagggacc atctctgtcc cctccaccct cactccatcc
1080
acctcggaga ccaccctccc ccagccagat acggaataaa actacagacg cagacgtcgg
1140
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa
1184

<210> 5452
<211> 206
<212> PRT
<213> Homo sapiens

<400> 5452
Met Ser Ser Val Tyr Pro Arg Pro Leu Glu Gly Glu Ser Arg Ala Leu
1   5   10   15
Arg Lys Gly Ser His Leu Leu Ser Leu Ala Glu Pro Leu Pro Pro Tyr
            20   25   30
Ser Ser Pro Glu Leu Ser Val Ala Phe His His Ser Gly Pro Ser Cys
        35   40   45
Leu Ser Pro Ala Leu Ser Gln Thr Thr Gln Lys Ser Gly His Leu Trp
    50   55   60
Ala Pro Gly Met Val Thr Glu Glu Lys His Ala Val Pro Val Ser Pro
65   70   75   80
Gly Phe Cys Gln Lys Ile Glu Gln Val Gln Leu Thr His Cys Tyr Cys
                85   90   95
Arg Ser Leu Lys Leu Pro Gly Leu Val Leu Asp Pro Ser Arg Asn His
            100   105   110
Gln Val Arg His Leu Glu Pro Pro Gly Glu Gly Pro Pro Ser Arg Ala
            115   120   125
Leu Lys Glu Leu His Glu Ile Arg Asn Cys Leu Met Lys Cys Ile Ser
        130   135   140
Leu Tyr Leu Glu Asp Glu Ala Gln Thr Pro Thr Pro Leu Ser Pro Pro
145   150   155   160
Gly Leu Gly Met Ser Pro Ala Ala Arg Pro Arg Ser Phe Pro Gly Gly
                165   170   175
Leu Gly Glu Val Gly Ala Gly Thr Ile Ser Val Pro Ser Thr Leu Thr
            180   185   190
Pro Ser Thr Ser Glu Thr Thr Leu Pro Gln Pro Asp Thr Glu

4633

                    195   200   205

<210> 5453
<211> 1974
<212> DNA
<213> Homo sapiens

<400> 5453
ntcggcaggc cggccatgga gccaggcagc gtggagaacc tgtccatcgt gtaccggagc
60
cgcgacttcc tggtggtcaa caagcactgg gacgttcgca ttgacagcaa ggcgtggcgg
120
gagactctga ccctgcagaa gcagctgcgg taccgctttc ccgagctggc cgaccctgac
180
acctgctacg ggttcaggtt ctgccaccag ctggatttct ccaccagcgg ggcgctgtgc
240
gtggccctaa acaaggcagc cgccggcagc gcgtacaggt gcttcaagga gcggcgcgtg
300
accaaggctt acctggcatt gctgcggggg cacatccagg agagccgggt aaccatcagc
360
catgccattg gcaggaacag cacggagggc cgggcccaca ccatgtgcat cgagggctcg
420
cagggtgtgg caggttgtga gaacccaaag ccaagcctca cagatctcgt ggttctggaa
480
cacgggctgt acgcaggcga tcctgtctcc aaagtgctgc tgaagccgct cacgggccgg
540
acacaccagc tgcgcgtgca ctgcagtgcc ctgggccacc ccgtggtggg cgacctgacc
600
tacggagaag tctcgggccg ggaggaccgg ccgttcagaa tgatgctgca cgctttctac
660
ctgcgcatcc ccacggacac cgagtgtgtg gaggtctgca cgcctgaccc cttcctgccc
720
tccctggatg cctgctggag cccccacaca ctgctgcagt cgctggacca gctcgtgcag
780
gccttacggg ccaccccga ccctgacccc gaggataggg gccccaggcc aggcagcccc
840
tccgcactcc tgcctgggcc cggccggcct cctccacccc caaccaagcc ccctgagact
900
gaggcacagc ggggcccctg cctgcagtgg ctgtcggagt ggacgctgga accggacagc
960
tgagagccgt ggggctgggg caggggtgt cagctgcaca gcgggactct agggagatgg
1020
gcgagcgagc gtctgctcac tggctctggg gcctcgaggt gccaggcagc atcaggccca
1080
ctgggttgcc ccggccaggc ctgcgaggaa gggctgaggt ggggccggca gggggcgcca
1140
ggcagccgtg atcacaggtg acgaccgcac cgcggccgtg ggactgatgc gggatcccga
1200
gggccttcct gcccacatgc cccgggagaa accgaggccc ctccctcctc ctggaacagc
1260
ttccggctct caagcgtcac cccaggggcg tcagttttac ggactcaagg tcacctcagg
1320
aagaggcagg gccaggtttt gggataggct ttgcctccag gatgggctgc tcctgggcct
1380

                                    4634

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ggtgagctac tgcccccaac ctaccctcta gaggggctgg gaagggccgt tctgggctca
1440
cctggcctgg gagacccatc tggtccctgc gtcctctgcc cctcactgct ctgtgcagat
1500
cctgtcgccc tcagctgcct cctcccgaga cctaatggtc cctgctgggc tcgagtctgc
1560
aggcccggct gcgtgtgcct tggcctcact gtaccagtgg ttccctctct gcccggattc
1620
tgagctcagt gtggtgtttg gtgcacaggg gttggtcagg ggccatggcc aaggccctgc
1680
cacgcacgcc catccctcag atccactgtg agcaccaacc tgctgcagtc tcttgggccc
1740
ctgctggcag ctctgccacg tcaccgcctg cctggctccc acacagccat gcattgtcac
1800
tctgcctccg ggaccccagc ttgggagctg tgggtctgcc aggtcccacc tcctctgtcc
1860
cccatgccac aacctgggct cctggctaca gcagggctcc agggactcca aataaatgtt
1920
cagtgactgg caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa
1974


<210> 5454
<211> 320
<212> PRT
<213> Homo sapiens

<400> 5454
Xaa Gly Arg Pro Ala Met Glu Pro Gly Ser Val Glu Asn Leu Ser Ile
 1               5                  10                  15
Val Tyr Arg Ser Arg Asp Phe Leu Val Val Asn Lys His Trp Asp Val
                20                  25                  30
Arg Ile Asp Ser Lys Ala Trp Arg Glu Thr Leu Thr Leu Gln Lys Gln
             35                  40                  45
Leu Arg Tyr Arg Phe Pro Glu Leu Ala Asp Pro Asp Thr Cys Tyr Gly
        50                  55                  60
Phe Arg Phe Cys His Gln Leu Asp Phe Ser Thr Ser Gly Ala Leu Cys
65                  70                  75                  80
Val Ala Leu Asn Lys Ala Ala Ala Gly Ser Ala Tyr Arg Cys Phe Lys
                85                  90                  95
Glu Arg Arg Val Thr Lys Ala Tyr Leu Ala Leu Leu Arg Gly His Ile
               100                 105                 110
Gln Glu Ser Arg Val Thr Ile Ser His Ala Ile Gly Arg Asn Ser Thr
            115                 120                 125
Glu Gly Arg Ala His Thr Met Cys Ile Glu Gly Ser Gln Gly Val Ala
        130                 135                 140
Gly Cys Glu Asn Pro Lys Pro Ser Leu Thr Asp Leu Val Val Leu Glu
145                 150                 155                 160
His Gly Leu Tyr Ala Gly Asp Pro Val Ser Lys Val Leu Leu Lys Pro
                165                 170                 175
Leu Thr Gly Arg Thr His Gln Leu Arg Val His Cys Ser Ala Leu Gly
                180                 185                 190
His Pro Val Val Gly Asp Leu Thr Tyr Gly Glu Val Ser Gly Arg Glu
            195                 200                 205
Asp Arg Pro Phe Arg Met Met Leu His Ala Phe Tyr Leu Arg Ile Pro
```

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         210                215                220
Thr Asp Thr Glu Cys Val Glu Val Cys Thr Pro Asp Pro Phe Leu Pro
225                230                235                240
Ser Leu Asp Ala Cys Trp Ser Pro His Thr Leu Leu Gln Ser Leu Asp
                245                250                255
Gln Leu Val Gln Ala Leu Arg Ala Thr Pro Asp Pro Asp Pro Glu Asp
                260                265                270
Arg Gly Pro Arg Pro Gly Ser Pro Ser Ala Leu Leu Pro Gly Pro Gly
         275                280                285
Arg Pro Pro Pro Pro Thr Lys Pro Pro Glu Thr Glu Ala Gln Arg
         290                295                300
Gly Pro Cys Leu Gln Trp Leu Ser Glu Trp Thr Leu Glu Pro Asp Ser
305                310                315                320
```

<210> 5455
<211> 975
<212> DNA
<213> Homo sapiens

<400> 5455
nggtgaggct caaactctct ctttctcctt gtcataacta ttggtttaca gtctttattt
60
gtttaaaagt aaagcacatt gtatgtattt atttggcaat acatgaggcc attaaaaccc
120
tgagcctaag gtaccacagt tagtctcatt tgcctcttgt cctgtgaact ccacttagaa
180
tgtcattgaa cttgggcaga cataattcta gtgtctgttc caaacgcact gtgtcacaga
240
agctagaatt accattagag gcacaaaccc ctgagaatac acaaggggc acgcttccag
300
tagatgtgtt ggggaaggag gagggcagag gggacagggg acaggattca gctttgtggt
360
gggtcctgag ggttcctacc aggggtagcc aggatctggg aaacagatca gcgactctag
420
tctgaagtgg ctgcctggtt cggggggctgc cttcagcaag attcaggcag gagagacgga
480
aatagccacc ttccaggcgt gagtcctgga gataaaaatg gattttaacc taggactgcc
540
gggagctggc cctccgcggc tgctcagact agggctgtgt gtgctggctc tcgcctgttt
600
ccggtgtcta actggcttgt ttctctttat ggcttggctt cattccgacc tggggtgggg
660
ccacatccaa cccactgccc actggctgtc cgtctggcct gccccgcggt tccaaccaca
720
gtggtgaagc agcgcttgca gatgtacaac tcgcagcacc ggtcagcaat cagctgcatc
780
cggacggtgt ggaggaccga ggggttgggg gccttctacc ggagctacac cacgcagctg
840
accatgaaca tcccttcca gtccatccac ttcatcacct atgagttcct gcaggagcag
900
gtcaacccc accggaccta caacccgcag tcccacatca tctcaggcgg gctggccggg
960
gccctcgccg cggcg
975
```

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<210> 5456
<211> 149
<212> PRT
<213> Homo sapiens

<400> 5456
Pro Arg Thr Ala Gly Ser Trp Pro Ser Ala Ala Ala Gln Thr Arg Ala
 1               5                  10                  15
Val Cys Ala Gly Ser Arg Leu Phe Pro Val Ser Asn Trp Leu Val Ser
            20                  25                  30
Leu Tyr Gly Leu Ala Ser Phe Arg Pro Gly Val Gly Pro His Pro Thr
        35                  40                  45
His Cys Pro Leu Ala Val Arg Leu Ala Cys Pro Ala Val Pro Thr Thr
    50                  55                  60
Val Val Lys Gln Arg Leu Gln Met Tyr Asn Ser Gln His Arg Ser Ala
65                  70                  75                  80
Ile Ser Cys Ile Arg Thr Val Trp Arg Thr Glu Gly Leu Gly Ala Phe
                85                  90                  95
Tyr Arg Ser Tyr Thr Thr Gln Leu Thr Met Asn Ile Pro Phe Gln Ser
            100                 105                 110
Ile His Phe Ile Thr Tyr Glu Phe Leu Gln Glu Gln Val Asn Pro His
        115                 120                 125
Arg Thr Tyr Asn Pro Gln Ser His Ile Ile Ser Gly Gly Leu Ala Gly
    130                 135                 140
Ala Leu Ala Ala Ala
145

<210> 5457
<211> 448
<212> DNA
<213> Homo sapiens

<400> 5457
cgcagcggga gcgtgggcag ccaggcggtg gcgcggagga tggatgggga cagccgagat
60
ggcggcggcg gcaaggacgc caccgggtcg gaggactacg agaacctgcc gactagcgcc
120
tccgtgtcca cccacatgac agcaggagcg atggccggga tcctggagca ctcggtcatg
180
tacccggtgg actcggtgaa ggtaatgtgg actgtggagc tctgtgctgg tcactttcaa
240
ccctgaacct gatgctactt attttgcagt tctaagtgca aagtcggcct ggtggatgct
300
tcccattata atattaaatt tgcttcttcg tgaggtcaca cctcacatcc ccagtgtcac
360
tttaataact agtgtttttt acatggtggg ccatgaccca ttagtggact ctgcatttaa
420
aaataaataa ataaataaaa gaaaaaaa
448

<210> 5458
<211> 81
<212> PRT
```

4637

<213> Homo sapiens

<400> 5458
Arg Ser Gly Ser Val Gly Ser Gln Ala Val Ala Arg Arg Met Asp Gly
1   5   10   15
Asp Ser Arg Asp Gly Gly Gly Gly Lys Asp Ala Thr Gly Ser Glu Asp
            20   25   30
Tyr Glu Asn Leu Pro Thr Ser Ala Ser Val Ser Thr His Met Thr Ala
            35   40   45
Gly Ala· Met Ala Gly Ile Leu Glu His Ser Val Met Tyr Pro Val Asp
        50   55   60
Ser Val Lys Val Met Trp Thr Val Glu Leu Cys Ala Gly His Phe Gln
65   70   75   80
Pro

<210> 5459
<211> 1468
<212> DNA
<213> Homo sapiens

<400> 5459
nncgccatgg cgtcaggcgc cgcggccccg gggaggtggc tcccacttta agaagtgaag
60
ttttgcgccc ctccccctcc ctgcccacct cctgcagcct cctgcgcccc gccgagctgg
120
cggatggagc tgcgcagcgg gagcgtgggc agccaggcgg tggcgcggag gatggatggg
180
gacagccgag atggcggcgg cggcaaggac gccaccgggt cggaggacta cgagaacctg
240
ccgactagcg cctccgtgtc cacccacatg acagcaggag cgatggccgg gatcctggag
300
cactcggtca tgtacccggt ggactcggtg aagacacgaa tgcagagttt gagtccagat
360
cccaaagccc agtacacaag tatctacgga gccctcaaga aaatcatgca gaccgaaggc
420
ttctggaggc ccttgcgagg cgtcaacgtc atgatcatgg gtgcagggcc agcccatgcc
480
atgtattttg cctgctatga aaacatgaaa aggactttaa atgacgtttt ccaccaccaa
540
ggaaacagcc acctagccaa cggtattttg aaagcgtttg tctggagtta gaaagttctc
600
ttcttcaaca cgtccctccc cagggtgttc ctccctgtga cccagccgcc tcgacttcgg
660
cccgcttgct cacgaataaa gaactcagag ttgtgtgtgc aatgcacacc cagacacacg
720
cacgcacaca cacgcgcgcg cacacacatg cttttttctg ttcccctccg ctttctgaag
780
cctggggaga aatcagtgac agaggtgttt tggttttatt gttatgtggg ttttcttttg
840
tatttttttt gtttgtttg ttttttaaaca ttcaaaagca attaatgatc agacatagga
900
gaaaccctga atagaaacaa aactttgaa tgctggattc aaaaaaaaa aaaagttatc
960

4638

```
tggacagctt ctttgagact atttaaaaac tggtacaaca ggtctctaca acgccaagat
1020
ctaactaagc tttaaaaggt caagaagttt tatggctgac aaaggactcg cgcaacgcag
1080
aaggcctttc ccaccttaag cttccgggga tctgggaatt ttacccccat tctcttctgt
1140
ttgtctgagt ctcatctctc tgcaagcaag ggctgaaatc attttgtttg ggatagctgg
1200
gagtatggcc accctgctcc acgatgcggt aatgaatcca gcagaaggta atgtttcatg
1260
gtcccaggga ggggcagtag gggatgtgca aaggggcaca aaaaaatggt tgtgggagag
1320
tggagaggac tgaaggtggg cagacggctc ctagtctcca gtcagagcag acaggagaat
1380
tgaatttttt actacgttat caaaggcctc aagaaaggac gtgaacataa gagtttttgg
1440
tattcctgtg ctcggagcta cttcaaag
1468


<210> 5460
<211> 155
<212> PRT
<213> Homo sapiens

<400> 5460
Met Glu Leu Arg Ser Gly Ser Val Gly Ser Gln Ala Val Ala Arg Arg
 1               5                   10                  15
Met Asp Gly Asp Ser Arg Asp Gly Gly Gly Gly Lys Asp Ala Thr Gly
            20                  25                  30
Ser Glu Asp Tyr Glu Asn Leu Pro Thr Ser Ala Ser Val Ser Thr His
         35                  40                  45
Met Thr Ala Gly Ala Met Ala Gly Ile Leu Glu His Ser Val Met Tyr
     50                  55                  60
Pro Val Asp Ser Val Lys Thr Arg Met Gln Ser Leu Ser Pro Asp Pro
65                  70                  75                  80
Lys Ala Gln Tyr Thr Ser Ile Tyr Gly Ala Leu Lys Lys Ile Met Gln
                85                  90                  95
Thr Glu Gly Phe Trp Arg Pro Leu Arg Gly Val Asn Val Met Ile Met
            100                 105                 110
Gly Ala Gly Pro Ala His Ala Met Tyr Phe Ala Cys Tyr Glu Asn Met
         115                 120                 125
Lys Arg Thr Leu Asn Asp Val Phe His His Gln Gly Asn Ser His Leu
     130                 135                 140
Ala Asn Gly Ile Leu Lys Ala Phe Val Trp Ser
145                 150                 155


<210> 5461
<211> 1725
<212> DNA
<213> Homo sapiens

<400> 5461
nnagtccgcg ccgcaggtgg tgcttgtctg cagagtcatg acctctttcc gcttggccct
60
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catccagctt cagatttctt ccatcaaatc agataacgtc actcgcgctt gtagcttcat
120
ccgggaggca gcaacgcaag gagccaaaat agtttctttg ccggaatgct ttaattctcc
180
atatggagcg aaatattttc ctgaatatgc agagaaaatt cctggtgaat ccacacagaa
240
gctttctgaa gtagcaaagg aatgcagcat atatctcatt ggaggtaact tcctacccac
300
aaggctctat ccctgaagag gatgctggga aattatataa cacctgtgct gtgtttgggc
360
ctgatggaac tttactagca aagtatagaa agatccatct gtttgacatt gatgttcctg
420
gaaaaattac atttcaagaa tctaaaacat tgagtccggg tgatagtttc tccacatttg
480
atactcgtat gtaccagata agtttgcctc tttagcaatc tcagtagaag acaatcaggt
540
atttatttct tttttgtctc tctccgattt cttcacataa cctaactgaa agaccataag
600
tgagaaaggc agagaatcat cacagatctg gaaagttcgg gcttatttga gaactaagga
660
tttgacacga ttttgccctt tgatttgatt gtagcttcct gttacggctt ccagagtata
720
cctattaggc tacagttgag tacctcccat ctagataata agcattcaat tagaatgaat
780
ttctcatctt tactccgctg atgtaaatga tgtctttatg agatgaagtc caagtaggaa
840
tgagcttgta aattatctct gtcctcaggt cctgtgttaa tttatccctg tcagtgtttt
900
gtgatcatta tgtcatggag gatttcccct gccacaccat gctgtaggga gttaactttt
960
catttgtgca ttttctgttt ggaaacagct tactgcagag tgggtctggg catctgctac
1020
gacatgcggt ttgcagagct tgcacaaatc tacgcacaga gaggctgcca gctgttggta
1080
tatccaggag cttttaatct gaccactgga ccagcccatt gggagttact tcagcgaagc
1140
cgggctgttg ataatcaggt gtatgtggcc acagcctctc ctgcccggga tgacaaagcc
1200
tcctatgttg cctggggaca cagcaccgtg gtgaacccatt gggggaggt tctagccaaa
1260
gctggcacag aagaagcaat cgtgtattca gacatagacc tgaagaagct ggctgaaata
1320
cgccagcaaa tccccgtttt tagacagaag cgatcagacc tctatgctgt ggagatgaaa
1380
aagccctaaa gtttatgttt ctaatgtgtc acagaatagg acgatatgat tctacaacat
1440
aatcaactcc ctattaaatt ctttaatgaa gatttttttt ttaattcggc cttgtccttc
1500
ctaggttctc tattgagatg agaaagcctc attatgctga cattttccac gccacattaa
1560
atagttaaaa aggatgcagc ctggagccag agagcagaaa gctgggctgg ttctgaagct
1620
tcttccatac ttaagttgcc tccaagcagt ttgtgaaagt atcagatcct ggtatcctgg
1680
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4640

```
tgattgattc acctaatata aatatatttg tgccatgaac ctctt
1725


<210> 5462
<211> 159
<212> PRT
<213> Homo sapiens


<400> 5462
Met Ser Trp Arg Ile Ser Pro Ala Thr Pro Cys Cys Arg Glu Leu Thr
1               5                   10                  15
Phe His Leu Cys Ile Phe Cys Leu Glu Thr Ala Tyr Cys Arg Val Gly
            20                  25                  30
Leu Gly Ile Cys Tyr Asp Met Arg Phe Ala Glu Leu Ala Gln Ile Tyr
        35                  40                  45
Ala Gln Arg Gly Cys Gln Leu Leu Val Tyr Pro Gly Ala Phe Asn Leu
    50                  55                  60
Thr Thr Gly Pro Ala His Trp Glu Leu Leu Gln Arg Ser Arg Ala Val
65                  70                  75                  80
Asp Asn Gln Val Tyr Val Ala Thr Ala Ser Pro Ala Arg Asp Asp Lys
                85                  90                  95
Ala Ser Tyr Val Ala Trp Gly His Ser Thr Val Val Asn Pro Trp Gly
            100                 105                 110
Glu Val Leu Ala Lys Ala Gly Thr Glu Glu Ala Ile Val Tyr Ser Asp
        115                 120                 125
Ile Asp Leu Lys Lys Leu Ala Glu Ile Arg Gln Gln Ile Pro Val Phe
    130                 135                 140
Arg Gln Lys Arg Ser Asp Leu Tyr Ala Val Glu Met Lys Lys Pro
145                 150                 155


<210> 5463
<211> 792
<212> DNA
<213> Homo sapiens


<400> 5463
nntttttttt ttttttaaag cctggattgt aaccagattt tctttttcc cccttctcag
60
ctgtagatat gatatctcct ttcagggccc cagcttaagg gcaaagtgag ttaatgtgta
120
gacaaaggcg agggacaaga gagagttaac atctagacag tggaaaaagc catggtgtgt
180
ggtttctggg aaccaccaac acttgcaggt ttagcttttt cccagggttg actacaagaa
240
agaaaaccat gtttttgcaa gattaaaatg tggttgagtg tgcctaaatt aaccatcccc
300
atttttatca tatttccacc atcacttcag ggttttaaga gtcagtgctc acctgggcgg
360
agctggtagt acattttgct tcttagaaag ctaagtcctg ggttccgtct gattttaggt
420
tccaggaact tcctgagaac acccgatcgc agagggtaat tttctggagt ttgttttgca
480
gggatagctg ggagtatggc caccctgctc cacgatgcgg taatgaatcc agcagaagtg
540
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4641

gtgaagcagc gcttgcagat gtacaactcg cagcaccggt cagcaatcag ctgcatccgg
600
acggtgtgga ggaccgaggg gttgggggcc ttctaccgga gctacaccac gcagctgacc
660
atgaacatcc ccttccagtc catccacttc atcacctatg agttcctgca ggagcaggtc
720
aaccccacc ggacctacaa cccgcagtcc cacatcatct caggcgggct ggccggggcc
780
ctcgccgcgg cc
792

<210> 5464
<211> 111
<212> PRT
<213> Homo sapiens

<400> 5464
Phe Ser Gly Val Cys Phe Ala Gly Ile Ala Gly Ser Met Ala Thr Leu
1   5   10   15
Leu His Asp Ala Val Met Asn Pro Ala Glu Val Val Lys Gln Arg Leu
            20   25   30
Gln Met Tyr Asn Ser Gln His Arg Ser Ala Ile Ser Cys Ile Arg Thr
        35   40   45
Val Trp Arg Thr Glu Gly Leu Gly Ala Phe Tyr Arg Ser Tyr Thr Thr
    50   55   60
Gln Leu Thr Met Asn Ile Pro Phe Gln Ser Ile His Phe Ile Thr Tyr
65   70   75   80
Glu Phe Leu Gln Glu Gln Val Asn Pro His Arg Thr Tyr Asn Pro Gln
                85   90   95
Ser His Ile Ile Ser Gly Gly Leu Ala Gly Ala Leu Ala Ala Ala
            100   105   110

<210> 5465
<211> 497
<212> DNA
<213> Homo sapiens

<400> 5465
tttgacggtc ttcaggttta tttcttaaat caattaggaa ataaaaccac agtgcccagg
60
aaagttcaca tgagacgcca cggtgtctct tgccatggcc ccaccactcc aggggccagg
120
gggtgctgct ggagggagga cagacggaca ggcggcctgg gtggccggcc ccagaaaggc
180
tggcgtggat gttcgagatg agccaccagc gaagccagta gggatgtctg ggccgtcctg
240
gtgggattgt ctgggacatc gccaccaaca cggtgtcaga gccatcagtg gggacatcgg
300
aggggccacc accaggtggg gtatattcaa caggctagaa cccctgaggc ttgagaggcc
360
aaccccggc aggagacctc ccctgacccc tctgctgcct ctcctgtggg accctccagt
420
agacacacca gatgaggaca cccaggaggc ctcctcccag gacaggaggc agctgcctgg
480

4642

```
gcagccacgc agtgcac
497


<210> 5466
<211> 134
<212> PRT
<213> Homo sapiens


<400> 5466
Met Ala Pro Pro Leu Gln Gly Pro Gly Gly Ala Ala Gly Gly Arg Thr
1               5                   10                  15
Asp Gly Gln Ala Ala Trp Val Ala Gly Pro Arg Lys Ala Gly Val Asp
                20                  25                  30
Val Arg Asp Glu Pro Pro Ala Lys Pro Val Gly Met Ser Gly Pro Ser
            35                  40                  45
Trp Trp Asp Cys Leu Gly His Arg His Gln His Gly Val Arg Ala Ile
        50                  55                  60
Ser Gly Asp Ile Gly Gly Ala Thr Thr Arg Trp Gly Ile Phe Asn Arg
65                  70                  75                  80
Leu Glu Pro Leu Arg Leu Glu Arg Pro Thr Pro Gly Arg Arg Pro Pro
                85                  90                  95
Leu Thr Pro Leu Leu Pro Leu Leu Trp Asp Pro Pro Val Asp Thr Pro
                100                 105                 110
Asp Glu Asp Thr Gln Glu Ala Ser Ser Gln Asp Arg Arg Gln Leu Pro
            115                 120                 125
Gly Gln Pro Arg Ser Ala
        130


<210> 5467
<211> 1329
<212> DNA
<213> Homo sapiens


<400> 5467
gtcgaatatc catgcagccg cgccgccgcc ctggagtgag ggaagcccag tggaaggggg
60
tcccgggagc cggctgcgat ggacgccgtc ttggaacccc tcccggccga caggctgttc
120
cccggatcca gcttcctgga cttgggggat ctgaacgagt cggacttcct caacaatgcg
180
cactttcctg agcacctgga ccactttacg gagaacatgg aggacttctc caatgacctg
240
ttcagcagct tctttgatga ccctgtgctg gatgagaaga gccctctatt ggacatggaa
300
ctggactccc ctacgccagg catccaggcg gagcacagct actccctgag cggcgactca
360
gcgccccaga gcccccttgt gcccatcaag atggaggaca ccacccaaga tgcagagcat
420
ggagcatggg cgctgggaca caaactgtgc tccatcatgg tgaagcagga gcagagcccg
480
gagctgcccg tggaccctct ggctgccccc tcggccatgg ctgccgcggc cgccatggcc
540
accacccccgc tgctgggcct cagccccttg tccaggctgc ccatcccccca ccaggccccg
600
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4643

ggagagatga ctcagctgcc agtgatcaaa gcagagcctc tggaggtgaa ccagttcctc
660
aaagtgacac cggaggacct ggtgcagatg cctccgacgc cccccagcag ccatggcagt
720
gacagcgacg gctcccagag tccccgctct ctgcccccct ccagccctgt caggcccatg
780
gcgcgctcct ccacggccat ctccagctcc ccactcctca cggctcctca taaattacag
840
gggacatcag gccctctggt cctgacagag gaggagaaga ggaccctgat tgctgagggc
900
tatcccatcc ccaccaaact ccccctcacc aaatcagagg agaaggcctt gaagaaaatt
960
cggaggaaga tcaagaataa gatttctgct caggaaagta ggagaaagaa gaaagaatac
1020
atggacagcc tggagaaaaa agtggagtct tgttcaactg agaacttgga gcttcggaag
1080
aaggtagaga ccctggagaa tgccaacagc ttctccagcg ggatccagcc actcctctgt
1140
tccctgattg gcctggagaa tcccacctga cccccacce cacccctctg tctctggctg
1200
gggttccttt ctggcccaaa gtaggtccaa gcccttgtag ttatttcgcc acctgctgta
1260
cattgtggga actgcaaccc ctacgtgccc gtttgggtgg agagagatta aacatttgcc
1320
caccaaaaa
1329

<210> 5468
<211> 363
<212> PRT
<213> Homo sapiens

<400> 5468
Met Asp Ala Val Leu Glu Pro Phe Pro Ala Asp Arg Leu Phe Pro Gly
1   5   10   15
Ser Ser Phe Leu Asp Leu Gly Asp Leu Asn Glu Ser Asp Phe Leu Asn
            20   25   30
Asn Ala His Phe Pro Glu His Leu Asp His Phe Thr Glu Asn Met Glu
        35   40   45
Asp Phe Ser Asn Asp Leu Phe Ser Ser Phe Phe Asp Asp Pro Val Leu
    50   55   60
Asp Glu Lys Ser Pro Leu Leu Asp Met Glu Leu Asp Ser Pro Thr Pro
65   70   75   80
Gly Ile Gln Ala Glu His Ser Tyr Ser Leu Ser Gly Asp Ser Ala Pro
                85   90   95
Gln Ser Pro Leu Val Pro Ile Lys Met Glu Asp Thr Thr Gln Asp Ala
            100   105   110
Glu His Gly Ala Trp Ala Leu Gly His Lys Leu Cys Ser Ile Met Val
        115   120   125
Lys Gln Glu Gln Ser Pro Glu Leu Pro Val Asp Pro Leu Ala Ala Pro
    130   135   140
Ser Ala Met Ala Ala Ala Ala Met Ala Thr Thr Pro Leu Leu Gly
145   150   155   160
Leu Ser Pro Leu Ser Arg Leu Pro Ile Pro His Gln Ala Pro Gly Glu

```
            165                   170                    175
Met Thr Gln Leu Pro Val Ile Lys Ala Glu Pro Leu Glu Val Asn Gln
            180                   185                    190
Phe Leu Lys Val Thr Pro Glu Asp Leu Val Gln Met Pro Pro Thr Pro
            195                   200                    205
Pro Ser Ser His Gly Ser Asp Ser Asp Gly Ser Gln Ser Pro Arg Ser
        210                   215                    220
Leu Pro Pro Ser Ser Pro Val Arg Pro Met Ala Arg Ser Ser Thr Ala
225                   230                    235                    240
Ile Ser Ser Ser Pro Leu Leu Thr Ala Pro His Lys Leu Gln Gly Thr
                245                   250                    255
Ser Gly Pro Leu Val Leu Thr Glu Glu Glu Lys Arg Thr Leu Ile Ala
            260                   265                    270
Glu Gly Tyr Pro Ile Pro Thr Lys Leu Pro Leu Thr Lys Ser Glu Glu
            275                   280                    285
Lys Ala Leu Lys Lys Ile Arg Arg Lys Ile Lys Asn Lys Ile Ser Ala
        290                   295                    300
Gln Glu Ser Arg Arg Lys Lys Lys Glu Tyr Met Asp Ser Leu Glu Lys
305                   310                    315                    320
Lys Val Glu Ser Cys Ser Thr Glu Asn Leu Glu Leu Arg Lys Lys Val
                325                   330                    335
Glu Thr Leu Glu Asn Ala Asn Ser Phe Ser Ser Gly Ile Gln Pro Leu
            340                   345                    350
Leu Cys Ser Leu Ile Gly Leu Glu Asn Pro Thr
        355                   360
```

```
<210> 5469
<211> 1292
<212> DNA
<213> Homo sapiens
```

```
<400> 5469
nncgcggccg cgtcgacgga aggggaggac gtgggatggt ggcggagctg gctgcagcag
60
agctaccaag cagtcaaaga gaagtcctct gaagccttgg agtttatgaa gcgggacctg
120
acggagttta cccaggtggt gcagcatgac acggcctgta ccatcgcagc cacggccagc
180
gtggtcaagg agaagctggc tacggaaggc tcctcaggag caacagagaa gatgaagaaa
240
gggttatctg acttcctagg ggtgatctca gacacctttg ccccttcgcc agacaaaacc
300
atcgactgcg atgtcatcac cctgatgggc acaccgtctg cacagctga gccctatgat
360
ggcaccaagg ctcgcctcta tagcctgcag tcggacccag caacctactg taatgaacca
420
gatgggcccc cggaattgtt tgacgcctgg ctttcccagt tctgcttgga ggagaagaag
480
ggggagatct cagagctcct tgtaggcagc ccctccatcc gggccctcta caccaagatg
540
gttccagcag ctgtttccca ttcagaattc tggcatcggt atttctataa agtccatcag
600
ttagagcagg agcaggcccg gagggacgcc ctgaagcagc gggcggaaca gagcatctct
660
```

gaagagcccg gctgggagga ggaggaagag gagctcatgg gcatttcacc catatctcca
720
aaagaggcaa aggttcctgt ggccaaaatt tctacattcc ctgaaggaga acctggcccc
780
cagagcccct gtgaagagaa tctggtgact tcagttgagc ccccagcaga ggtgactcca
840
tcagagagca gtgagagcat ctccctcgtg acacagatcg ccaacccggc cactgcacct
900
gaggcacgag tgctacccaa ggacctgtcc caaaagctgc tagaggcatc cttggaggaa
960
cagggcctgg ctgtggatgt gggtgagact ggaccctcac ccctattca ctccaagccc
1020
ctaacgcctg ctggccacac cggcggccca gagcccaggc ctccagccag agtagagact
1080
ctgagggagg aggcgcccac agacttacgg gtgtttgagc tgaactcgga tagtgggaag
1140
tctacaccct ccaacaatgg aaagaaaggc tcaagcacgg acatcagtga ggactgggag
1200
aaagactttg acttggacat gactgaagag gaggtgcaga tggcacttc caaagtggat
1260
gcctccgggg agctgaagat gtagaggggg aa
1292

<210> 5470
<211> 427
<212> PRT
<213> Homo sapiens

<400> 5470
Xaa Ala Ala Ala Ser Thr Glu Gly Glu Asp Val Gly Trp Trp Arg Ser
1   5   10   15
Trp Leu Gln Gln Ser Tyr Gln Ala Val Lys Glu Lys Ser Ser Glu Ala
            20   25   30
Leu Glu Phe Met Lys Arg Asp Leu Thr Glu Phe Thr Gln Val Val Gln
        35   40   45
His Asp Thr Ala Cys Thr Ile Ala Ala Thr Ala Ser Val Val Lys Glu
    50   55   60
Lys Leu Ala Thr Glu Gly Ser Ser Gly Ala Thr Glu Lys Met Lys Lys
65   70   75   80
Gly Leu Ser Asp Phe Leu Gly Val Ile Ser Asp Thr Phe Ala Pro Ser
            85   90   95
Pro Asp Lys Thr Ile Asp Cys Asp Val Ile Thr Leu Met Gly Thr Pro
            100   105   110
Ser Gly Thr Ala Glu Pro Tyr Asp Gly Thr Lys Ala Arg Leu Tyr Ser
            115   120   125
Leu Gln Ser Asp Pro Ala Thr Tyr Cys Asn Glu Pro Asp Gly Pro Pro
        130   135   140
Glu Leu Phe Asp Ala Trp Leu Ser Gln Phe Cys Leu Glu Glu Lys Lys
145   150   155   160
Gly Glu Ile Ser Glu Leu Leu Val Gly Ser Pro Ser Ile Arg Ala Leu
            165   170   175
Tyr Thr Lys Met Val Pro Ala Ala Val Ser His Ser Glu Phe Trp His
            180   185   190
Arg Tyr Phe Tyr Lys Val His Gln Leu Glu Gln Glu Gln Ala Arg Arg

```
              195                    200                    205
Asp Ala Leu Lys Gln Arg Ala Glu Gln Ser Ile Ser Glu Glu Pro Gly
    210                    215                    220
Trp Glu Glu Glu Glu Glu Glu Leu Met Gly Ile Ser Pro Ile Ser Pro
225                    230                    235                    240
Lys Glu Ala Lys Val Pro Val Ala Lys Ile Ser Thr Phe Pro Glu Gly
                245                    250                    255
Glu Pro Gly Pro Gln Ser Pro Cys Glu Glu Asn Leu Val Thr Ser Val
                260                    265                    270
Glu Pro Pro Ala Glu Val Thr Pro Ser Glu Ser Ser Glu Ser Ile Ser
                275                    280                    285
Leu Val Thr Gln Ile Ala Asn Pro Ala Thr Ala Pro Glu Ala Arg Val
        290                    295                    300
Leu Pro Lys Asp Leu Ser Gln Lys Leu Leu Glu Ala Ser Leu Glu Glu
305                    310                    315                    320
Gln Gly Leu Ala Val Asp Val Gly Glu Thr Gly Pro Ser Pro Pro Ile
                325                    330                    335
His Ser Lys Pro Leu Thr Pro Ala Gly His Thr Gly Gly Pro Glu Pro
                340                    345                    350
Arg Pro Pro Ala Arg Val Glu Thr Leu Arg Glu Glu Ala Pro Thr Asp
                355                    360                    365
Leu Arg Val Phe Glu Leu Asn Ser Asp Ser Gly Lys Ser Thr Pro Ser
        370                    375                    380
Asn Asn Gly Lys Lys Gly Ser Ser Thr Asp Ile Ser Glu Asp Trp Glu
385                    390                    395                    400
Lys Asp Phe Asp Leu Asp Met Thr Glu Glu Glu Val Gln Met Ala Leu
                405                    410                    415
Ser Lys Val Asp Ala Ser Gly Glu Leu Lys Met
                420                    425
```

```
<210> 5471
<211> 534
<212> DNA
<213> Homo sapiens

<400> 5471
cggccgcccc gcgggggcgc agaaatagga ccgtcctggc agaggctgca gccgacccag
60
ctggccccac tacgcggggc ccagagccag ggtgggggat gcagagaccg ggcgtgcggg
120
ttgccaggtg tggcgcacat gtgtgcccgt gggcagagta cagagacaca agcttgtgtg
180
gacacgaatg tgtagctatg tgcgagtgca cacggagtgg tgagtgcagg accccaggc
240
cggcctgcgt cggtgcgcag ggcatatagg ggcgtgcacg cagtcttgga ggtgtgtgca
300
cagagccccc ggcacccgcg tgtgtgcaaa gacacaggaa cccgtctgcg tggcgctgtg
360
tgtgcaaccc aaggaggtgg gcgcttggac tccaaagtgt gcgcttatcc ggatgtggat
420
gtgggggcag ccggggacag ggctgggtgt gcgtgactcg ggtgtgccgg acccacaga
480
gcatatgtgt ccatgcctgg tgctgtgact catgtccctg gggtgggcac gcgt
534
```

4647

```
<210> 5472
<211> 161
<212> PRT
<213> Homo sapiens

<400> 5472
Met Leu Cys Gly Ser Arg His Thr Arg Val Thr His Thr Gln Pro Cys
1               5                   10                  15
Pro Arg Leu Pro Pro His Pro His Pro Asp Lys Arg Thr Leu Trp Ser
            20                  25                  30
Pro Ser Ala His Leu Leu Gly Leu His Thr Gln Arg His Ala Asp Gly
        35                  40                  45
Phe Leu Cys Leu Cys Thr His Ala Gly Ala Gly Gly Ser Val His Thr
    50                  55                  60
Pro Pro Arg Leu Arg Ala Arg Pro Tyr Met Pro Cys Ala Pro Thr Gln
65                  70                  75                  80
Ala Gly Leu Gly Ser Leu His Ser Pro Leu Arg Val His Ser His Ile
                85                  90                  95
Ala Thr His Ser Cys Pro His Lys Leu Val Ser Leu Tyr Ser Ala His
            100                 105                 110
Gly His Thr Cys Ala Pro His Leu Ala Thr Arg Thr Pro Gly Leu Cys
        115                 120                 125
Ile Pro His Pro Gly Ser Gly Pro Arg Val Val Gly Pro Ala Gly Ser
        130                 135                 140
Ala Ala Ala Ser Ala Arg Thr Val Leu Phe Leu Arg Pro Arg Gly Ala
145                 150                 155                 160
Ala


<210> 5473
<211> 691
<212> DNA
<213> Homo sapiens

<400> 5473
gcgaccagca gcgctggtgg ccatgctctt ggacactacg gcctggcggg cagccctcgc
60
cgctgccgcg ccccgcgccc ccaggaggcc gcaccctgcg ccagggcccg gagacagcaa
120
catcttctgg ggcctgcagg agacctgaca gatgccaaaa caaaggaaca gttgggatcc
180
aggcagcatg aggtagaatg gcaaacctac cagggtattc tgaagaagac aagagtcatg
240
gaaaaaacca agtggctgga tatcaaagga aatcatgaaa aagatggagg agctcttatt
300
actggccaag gaaagcagtc ggagcaacca tacaatttgg tttggacact ttacaacatc
360
cactattctt tctccatcac caggaatccg gtcaataatg agttcggcta tagcttattt
420
gtgtggacat ctccatacac ttggtggact gatgcctgtt ttgcacactc gtcacttcca
480
gggcactttg gaacttgagg tgggagactg gaaggataat aggaggtacc ggatttttgc
540
```

ttttgatcac gacctcttta gctttgcaga tttgatcttt gggaagtggc ctgtggttct
600
tatcaccaat cctaaatcac tcctttatag ttgtggtgaa catgaaccac tagaaagact
660
tcttcactca acccacatta gattggtaac a
691

<210> 5474
<211> 139
<212> PRT
<213> Homo sapiens

<400> 5474
Met Lys Lys Met Glu Glu Leu Leu Leu Leu Ala Lys Glu Ser Ser Arg
1   5   10   15
Ser Asn His Thr Ile Trp Phe Gly His Phe Thr Thr Ser Thr Ile Leu
            20   25   30
Ser Pro Ser Pro Gly Ile Arg Ser Ile Met Ser Ser Ala Ile Ala Tyr
        35   40   45
Leu Cys Gly His Leu His Thr Leu Gly Gly Leu Met Pro Val Leu His
    50   55   60
Thr Arg His Phe Gln Gly Thr Leu Glu Leu Glu Val Gly Asp Trp Lys
65   70   75   80
Asp Asn Arg Arg Tyr Arg Ile Phe Ala Phe Asp His Asp Leu Phe Ser
                85   90   95
Phe Ala Asp Leu Ile Phe Gly Lys Trp Pro Val Val Leu Ile Thr Asn
            100   105   110
Pro Lys Ser Leu Leu Tyr Ser Cys Gly Glu His Glu Pro Leu Glu Arg
        115   120   125
Leu Leu His Ser Thr His Ile Arg Leu Val Thr
    130   135

<210> 5475
<211> 628
<212> DNA
<213> Homo sapiens

<400> 5475
ggcacacacg aaacagcctt cctgggaccc aaggacctgt tcccctacga caaatgtaaa
60
gacaagtacg ggaagcccaa caagaggaaa ggcttcaatg aagggctgtg ggagatccag
120
aacaaccccc acgccagcta cagcgcccct ccgccagtga gctcctccga cagcgaggcc
180
cccgaggcca accccgccga cggcagtgac gctgacgagg acgatgagga ccggggggtc
240
atggccgtca cagcggtaac cgccacagct gccagcgaca ggatggagag cgactcagac
300
tcagacaaga gtagcgacaa cagtggcctg aagaggaaga cgcctgcgct aaagatgtcg
360
gtctcgaaac gagcccgaaa ggcctccagc gacctggatc aggccagcgt gtccccatcc
420
gaagaggaga actcggaaag ctcatctgag tcggagaaga ccagcgacca ggacttcaca
480

cctgagaaga aagcagcggt ccgggcgcca cggaggggcc ctctgggggg acggaaaaaa
540
aagaaggcgc cgtcagcctc cgactccgac tccaaggccg attcggacgg ggccaagcct
600
gagccggtgg ccatggcgcg gtcggcgt
628

<210> 5476
<211> 209
<212> PRT
<213> Homo sapiens

<400> 5476
Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro Tyr
1   5   10   15
Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys Gly Phe
            20   25   30
Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala Ser Tyr Ser
        35   40   45
Ala Pro Pro Val Ser Ser Ser Asp Ser Glu Ala Pro Glu Ala Asn
    50   55   60
Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Glu Asp Arg Gly Val
65   70   75   80
Met Ala Val Thr Ala Val Thr Ala Thr Ala Ala Ser Asp Arg Met Glu
                85   90   95
Ser Asp Ser Asp Ser Asp Lys Ser Ser Asp Asn Ser Gly Leu Lys Arg
            100   105   110
Lys Thr Pro Ala Leu Lys Met Ser Val Ser Lys Arg Ala Arg Lys Ala
        115   120   125
Ser Ser Asp Leu Asp Gln Ala Ser Val Ser Pro Ser Glu Glu Glu Asn
    130   135   140
Ser Glu Ser Ser Ser Glu Ser Glu Lys Thr Ser Asp Gln Asp Phe Thr
145   150   155   160
Pro Glu Lys Lys Ala Ala Val Arg Ala Pro Arg Arg Gly Pro Leu Gly
                165   170   175
Gly Arg Lys Lys Lys Lys Ala Pro Ser Ala Ser Asp Ser Asp Ser Lys
            180   185   190
Ala Asp Ser Asp Gly Ala Lys Pro Glu Pro Val Ala Met Ala Arg Ser
    195   200   205
Ala

<210> 5477
<211> 727
<212> DNA
<213> Homo sapiens

<400> 5477
ttttttgtta gtgtttcctt tattataaag cactgaaata agttaaataa acaggtggga
60
ggctgggcag tcccccagcc ggtttgtcca cagcccctgg gggcagtgga ggtgaataca
120
gggcccttct cactgagctc gtgaagtgcc tcagtcaagg caaggtcccc tggtccatat
180

```
gggccccccc gcccatgggg ttgggctggt ccttatagtg cctacgttag tctgtgtgga
240
gcccctggcc agcggggggag aaaaaggtgg cttctggtcc gtctgtataa aacatggccc
300
ctcacctgtc ggccccccac acagctggca ggctgggctg gcctctcacc cctggcctcc
360
cctggacccc tggctggctc ctcaacttca ctctccgcac ttagtgcccg gccgccccca
420
gactcatcgt cgctcagccc atagggaagc ccaggcctgg cccccagaga gtctccttcc
480
gagtctctct cgaagcccat gagctggtca ctgttgccgt cgccttcctc ctcttcctct
540
tcctcctcaa actccagatc ctggcctagt agcaaatcac tctccaatac cagggccccg
600
ggtccttcgt cgagggagtc ttcagtatcc actttgaccc cctcgcattt cacgggctgc
660
gggtggcttt gcttccttcg gggcatcgtg accggctcca gcccgacgcg cctccggcct
720
gcggccg
727
```

```
<210> 5478
<211> 99
<212> PRT
<213> Homo sapiens
```

```
<400> 5478
Ser Ala Ser Val Lys Ala Arg Ser Pro Gly Pro Tyr Gly Pro Pro Arg
1               5                   10                  15
Pro Trp Gly Trp Ala Gly Pro Tyr Ser Ala Tyr Val Ser Leu Cys Gly
                20                  25                  30
Ala Pro Gly Gln Arg Gly Arg Lys Arg Trp Leu Leu Val Arg Leu Tyr
            35                  40                  45
Lys Thr Trp Pro Leu Thr Cys Arg Pro Pro Thr Gln Leu Ala Gly Trp
    50                  55                  60
Ala Gly Leu Ser Pro Leu Ala Ser Pro Gly Pro Leu Ala Gly Ser Ser
65                  70                  75                  80
Thr Ser Leu Ser Ala Leu Ser Ala Arg Pro Pro Pro Asp Ser Ser Ser
                85                  90                  95
Leu Ser Pro
```

```
<210> 5479
<211> 1386
<212> DNA
<213> Homo sapiens
```

```
<400> 5479
gccggcacca cagaccgaga agaagccact cggctcttgg ctgagaagcg gcgccaggcc
60
cgggagcagc gggagcgcga ggagcaggag cggaggctgc aggcagaaag ggacaagcga
120
atgcgagagg agcagctggc acgggaggcc gaggcccggg cggagcggga ggcggaggcc
180
```

cggaggcggg aggagcagga ggcacgagag aaggcgcagg ccgagcagga ggagcaggag
240
cggctgcaga agcagaaaga ggaggccgaa gctcggtcgc gggaagaggc ggagcggcag
300
cgtctggagc gggaaaagca cttccagcag caggagcaag agcggcaaga gcgcagaaag
360
cgtctggagg agatcatgaa gaggactcgg aagtcagaag tttctgaaac caagcagaag
420
caggacagca aggaggccaa cgccaacggt tccagcccag agcctgtgaa agctgtggag
480
gctcggtccc cagggctgca gaaggaggct gtgcagaaag aggagcccat cccacaggag
540
cctcagtgga gtctcccaag caaggagttg ccagcgtccc tggtgaatgg cctgcagcct
600
ctcccagcac accaggagaa tggcttctcc accaacggac cctctgggga caagagtctg
660
agccgaacac cagagacact cctgcccttt gcagaggcag aagccttcct caagaaagct
720
gtggtgcagt ccccgcaggt cacagaagtc ctttaagagg gtttgccttg gatccgggca
780
cagttgtgag ggctcctctg catcacctac caggatgtct ggaggagaaa aagacagaac
840
aaagatggaa gtggcctggg cccctggggg tgggtcctct ctgttgtttt taatctgcac
900
cttatagact gatgtctctt tggccggagc cagatctgcc cctcagtgca ttcgtgtgct
960
cgcacgcgca gacatccctt ctcccccata cacacatata cactcacagc ctctctggcc
1020
tcttcccttg gggagggggcc acctgtagta tttgccttga tttggtgggg tacagtggat
1080
gtgaatactg taaatagctt gtgctcagac tcctctgcgt ggagagggtg ggtgcaggag
1140
gcagaccctc cccccaaagc ccctggggga gatcttcctc tctctattta actgtaactg
1200
aggggatcc caggtctggg gatgggggac accttgggcc acaggatact ggttgcttca
1260
ggggtaccca tgcccctgc cctcgcctgg aatcagtgtt actgcatctg attaaatgtc
1320
tccagaaata aagaataatt ctgccaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1380
aaaaaa
1386

<210> 5480
<211> 251
<212> PRT
<213> Homo sapiens

<400> 5480
Ala Gly Thr Thr Asp Arg Glu Glu Ala Thr Arg Leu Leu Ala Glu Lys
1   5   10   15
Arg Arg Gln Ala Arg Glu Gln Arg Glu Arg Glu Glu Gln Glu Arg Arg
                20   25   30
Leu Gln Ala Glu Arg Asp Lys Arg Met Arg Glu Glu Gln Leu Ala Arg

```
            35                    40                    45
Glu Ala Glu Ala Arg Ala Glu Arg Glu Ala Glu Ala Arg Arg Arg Glu
      50                    55                    60
Glu Gln Glu Ala Arg Glu Lys Ala Gln Ala Glu Gln Glu Glu Gln Glu
65                    70                    75                    80
Arg Leu Gln Lys Gln Lys Glu Glu Ala Glu Ala Arg Ser Arg Glu Glu
                  85                    90                    95
Ala Glu Arg Gln Arg Leu Glu Arg Glu Lys His Phe Gln Gln Gln Glu
            100                   105                   110
Gln Glu Arg Gln Glu Arg Arg Lys Arg Leu Glu Glu Ile Met Lys Arg
            115                   120                   125
Thr Arg Lys Ser Glu Val Ser Glu Thr Lys Gln Lys Gln Asp Ser Lys
      130                   135                   140
Glu Ala Asn Ala Asn Gly Ser Ser Pro Glu Pro Val Lys Ala Val Glu
145                   150                   155                   160
Ala Arg Ser Pro Gly Leu Gln Lys Glu Ala Val Gln Lys Glu Glu Pro
                  165                   170                   175
Ile Pro Gln Glu Pro Gln Trp Ser Leu Pro Ser Lys Glu Leu Pro Ala
            180                   185                   190
Ser Leu Val Asn Gly Leu Gln Pro Leu Pro Ala His Gln Glu Asn Gly
            195                   200                   205
Phe Ser Thr Asn Gly Pro Ser Gly Asp Lys Ser Leu Ser Arg Thr Pro
      210                   215                   220
Glu Thr Leu Leu Pro Phe Ala Glu Ala Glu Ala Phe Leu Lys Lys Ala
225                   230                   235                   240
Val Val Gln Ser Pro Gln Val Thr Glu Val Leu
                  245                   250
```

```
<210> 5481
<211> 1513
<212> DNA
<213> Homo sapiens

<400> 5481
tgtccaatga ggagccagcg ccggattgct tcaggacaga ctatttctga gtctcggcgg
60
aaggcggagg gaaggccgtg gggatggcca atcaaagggg gcgactcagg tcggtgggga
120
ccggcagcca atcaggagag cgctcgctcc tgactcgacc ggcccacgct tcccgccagt
180
cccctaaccc tgaggctgcc gcgcggcggt cactgcgccg gggtagtggg ccccagtgtt
240
gcgctctctg gccgttcctt acactttgct tcaggctcca gtgcaggggc gtagtgggat
300
atggccaact cgggctgcaa ggacgtcacg ggtccagatg aggagagttt tctgtacttt
360
gcctacggca gcaacctgct gacagagagg atccacctcc gaaacccctc ggcggcgttc
420
ttctgtgtgg cccgcctgca ggattttaag cttgactttg gcaattccca aggcaaaaca
480
agtcaaactt ggcatggagg gatagccacc atttttcaga gtcctggcga tgaattgtgg
540
ggagtagtat ggaaaatgaa caaaagcaat ttaaattctc tggatgagca agaaggggtt
600
```

```
aaaagtggaa tgtatgttgt aatagaagtt aaagttgcaa ctcaagaagg aaaagaaata
660
acctgtcgaa gttatctgat gacaaattac gaaagtgctc ccccatcccc acagtataaa
720
aagattattt gcatgggtgc aaaagaaaat ggtttgccgc tggagtatca agagaagtta
780
aaagcaatag aaccaaatga ctatacagga aaggtctcag aagaaattga agacatcatc
840
aaaaaggggg aaacacaaac tctttagaac ataacagaat atatctaagg gtattctatg
900
tgctaatata aaatattttt aacacttgag aacagggatc tggggatct ccacgtttga
960
tccattttca gcagtgctct gaaggagtat cttacttggg tgattccttg tttttagact
1020
ataaaaagaa actgggatag gagttagaca atttaaaagg ggtgtatgag ggcctgaaat
1080
atgtgacaaa tgaatgtgag tacccct tct gtgaacactg aaagctattc tcttgaattg
1140
atcttaagtg tctccttgct ctggtaaaag atagatttgt agctcacttg atgatggtgc
1200
tggtgaattg ctctgctctg tctgagattt ttaaaaatca gcttaatgag agtaatctgc
1260
agacaattga taataacatt ttgaaaattg gaaagatggt atactgtttt tagaggaata
1320
aacgtatttg tggtttaaaa aaaaaagagc aacttccttt gcactgtata ccctttttgta
1380
ttattaggat tttatactat gtttatatgt tgcctattta ataaatcgct taaagttata
1440
tatcttgaat atctttccat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1500
aaaaaaaaaa aaa
1513


<210> 5482
<211> 188
<212> PRT
<213> Homo sapiens

<400> 5482
Met Ala Asn Ser Gly Cys Lys Asp Val Thr Gly Pro Asp Glu Glu Ser
  1               5                  10                  15
Phe Leu Tyr Phe Ala Tyr Gly Ser Asn Leu Leu Thr Glu Arg Ile His
             20                  25                  30
Leu Arg Asn Pro Ser Ala Ala Phe Phe Cys Val Ala Arg Leu Gln Asp
         35                  40                  45
Phe Lys Leu Asp Phe Gly Asn Ser Gln Gly Lys Thr Ser Gln Thr Trp
     50                  55                  60
His Gly Gly Ile Ala Thr Ile Phe Gln Ser Pro Gly Asp Glu Leu Trp
 65                  70                  75                  80
Gly Val Val Trp Lys Met Asn Lys Ser Asn Leu Asn Ser Leu Asp Glu
                 85                  90                  95
Gln Glu Gly Val Lys Ser Gly Met Tyr Val Val Ile Glu Val Lys Val
                100                 105                 110
Ala Thr Gln Glu Gly Lys Glu Ile Thr Cys Arg Ser Tyr Leu Met Thr
```

4654

```
           115                   120                   125
Asn Tyr Glu Ser Ala Pro Pro Ser Pro Gln Tyr Lys Lys Ile Ile Cys
      130                   135                   140
Met Gly Ala Lys Glu Asn Gly Leu Pro Leu Glu Tyr Gln Glu Lys Leu
145                   150                   155                   160
Lys Ala Ile Glu Pro Asn Asp Tyr Thr Gly Lys Val Ser Glu Glu Ile
                  165                   170                   175
Glu Asp Ile Ile Lys Lys Gly Glu Thr Gln Thr Leu
              180                   185
```

```
<210> 5483
<211> 1552
<212> DNA
<213> Homo sapiens

<400> 5483
actttcctcg acagccactg tgaggtgaac agggactggc tccagcctct nttngacagg
60
gtcaaagagg actacacgcg ggtggtgtgc cctgtgatcg atatcattaa cctggacacc
120
ttcacctaca tcgagtctgc ctcggagctc agaggggggt ttgactggag cctccacttc
180
cagtgggagc agctctcccc agagcagaag ctcggcgcc tggaccccac ggagcccatc
240
aggactccta tcatagctgg agggctcttc gtgatcgaca agcttggtt tgattacctg
300
gggaaatatg atatggacat ggacatctgg ggtggggaga actttgaaat ctccttccga
360
gtgtggatgt gcggggggcag cctagagatc gtcccctgca gccgagtggg gcacgtcttc
420
cggaagaagc acccctacgt tttccctgat ggaaatgcca cacgtatat aaagaacacc
480
aagcggacag ctgaagtgtg gatggatgaa tacaagcaat actattacgc tgcccggcca
540
ttcgccctgg agaggccctt cgggaatgtt gagagcagat tggacctgag gaagaatctg
600
cgctgccaga gcttcaagtg gtacctggag aatatctacc ctgaactcag catccccaag
660
gagttctcca tccagaaggg caatatccga cagagacaga gtgcctgga atctcaaagg
720
cagaacaacc aagaaacccc aaacctaaag ttgagcccct gtgccaaggt caaaggcgaa
780
gatgcaaagt cccaggtatg ggccttcaca tacacccaga agatcctcca ggaggagctg
840
tgcctgtcag tcatcacctt gttccctggc gccccagtgg ttcttgtcct ttgcaagaat
900
ggagatgacc gacagcaatg gaccaaaact ggttcccaca tcgagcacat agcatcccac
960
ctctgcctcg atacagatat gttcggtgat ggcaccgaga acggcaagga aatcgtcgtc
1020
aacccatgtg agtcctcact catgagccag cactgggaca tggtgagctc ttgaggaccc
1080
ctgccagaag cagcaagggc catggggtgg tgcttccctg accagaaca gactggaaac
1140
```

```
tgggcagcaa gcagcctgca accacctcag acatcctgga ctgggaggtg gaggcagagc
1200
cccccaggac aggagcaact gtctcaggga ggacagagga aaacatcaca agccaatggg
1260
gctcaaagac aaatcccaca tgttctcaag gccgttaagt tccagtcctg gccagtcatt
1320
ccctgattgg tatctggaga cagaaaccta atgggaagtg tttattgttc cttttcctac
1380
aaaggaagca gtctctggag gccagaaaga aaagccttct ttttcactag gccaggacta
1440
cattgagaga tgaagaatgg aggttgtttc caaaagaaat aaagagaaac ttagaagttg
1500
tctctggaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
1552


<210> 5484
<211> 357
<212> PRT
<213> Homo sapiens

<400> 5484
Thr Phe Leu Asp Ser His Cys Glu Val Asn Arg Asp Trp Leu Gln Pro
1               5                   10                  15
Leu Xaa Asp Arg Val Lys Glu Asp Tyr Thr Arg Val Val Cys Pro Val
              20                  25                  30
Ile Asp Ile Ile Asn Leu Asp Thr Phe Thr Tyr Ile Glu Ser Ala Ser
           35                  40                  45
Glu Leu Arg Gly Gly Phe Asp Trp Ser Leu His Phe Gln Trp Glu Gln
        50                  55                  60
Leu Ser Pro Glu Gln Lys Ala Arg Arg Leu Asp Pro Thr Glu Pro Ile
65                  70                  75                  80
Arg Thr Pro Ile Ile Ala Gly Gly Leu Phe Val Ile Asp Lys Ala Trp
              85                  90                  95
Phe Asp Tyr Leu Gly Lys Tyr Asp Met Asp Met Asp Ile Trp Gly Gly
              100                 105                 110
Glu Asn Phe Glu Ile Ser Phe Arg Val Trp Met Cys Gly Gly Ser Leu
           115                 120                 125
Glu Ile Val Pro Cys Ser Arg Val Gly His Val Phe Arg Lys Lys His
        130                 135                 140
Pro Tyr Val Phe Pro Asp Gly Asn Ala Asn Thr Tyr Ile Lys Asn Thr
145                 150                 155                 160
Lys Arg Thr Ala Glu Val Trp Met Asp Glu Tyr Lys Gln Tyr Tyr Tyr
              165                 170                 175
Ala Ala Arg Pro Phe Ala Leu Glu Arg Pro Phe Gly Asn Val Glu Ser
              180                 185                 190
Arg Leu Asp Leu Arg Lys Asn Leu Arg Cys Gln Ser Phe Lys Trp Tyr
           195                 200                 205
Leu Glu Asn Ile Tyr Pro Glu Leu Ser Ile Pro Lys Glu Phe Ser Ile
        210                 215                 220
Gln Lys Gly Asn Ile Arg Gln Arg Gln Lys Cys Leu Glu Ser Gln Arg
225                 230                 235                 240
Gln Asn Asn Gln Glu Thr Pro Asn Leu Lys Leu Ser Pro Cys Ala Lys
              245                 250                 255
Val Lys Gly Glu Asp Ala Lys Ser Gln Val Trp Ala Phe Thr Tyr Thr
```

```
               260                   265                   270
Gln Lys Ile Leu Gln Glu Glu Leu Cys Leu Ser Val Ile Thr Leu Phe
           275                   280                   285
Pro Gly Ala Pro Val Val Leu Val Leu Cys Lys Asn Gly Asp Asp Arg
       290                   295                   300
Gln Gln Trp Thr Lys Thr Gly Ser His Ile Glu His Ile Ala Ser His
305                   310                   315                   320
Leu Cys Leu Asp Thr Asp Met Phe Gly Asp Gly Thr Glu Asn Gly Lys
               325                   330                   335
Glu Ile Val Val Asn Pro Cys Glu Ser Ser Leu Met Ser Gln His Trp
           340                   345                   350
Asp Met Val Ser Ser
           355
```

```
<210> 5485
<211> 1549
<212> DNA
<213> Homo sapiens
```

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<400> 5485
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gtgtacccgg aggagcacag cagatggagg dacagctcca ggacgaggtt gtggaattcg
120
ccgttcgaaa gcagggacta aaagccccac ttcgtcttac gttccgaaag gaaggcgtct
180
gttgagcctt tctctcagtc gtgagggagg cgtcgacggc gtgcggaagt cctgagttga
240
ggcttgcggg atcctttccg gagaaagcgc aggctaaagc cgcaggtgaa gatgtccaac
300
tacgtgaacg acatgtggcc gggctcgccg caggagaagg attcgccctc gacctcgcgg
360
tcgggcgggt ccagccggct gtcgtcgcgg tctaggagcc gctctttttc cagaagctct
420
cggtcccatt cccgcgtctc gagccggttt tcgtccagga gtcggaggag caagtccagg
480
tcccgttccc gaaggcgcca ccagcggaag tacaggcgct actcgcggtc atactcgcgg
540
agccggtcgc gatcccgcag ccgccgttac cgagagaggc gctacgggtt caccaggaga
600
tactaccggt ctccttcgcg gtaccggtcc cggtcccgta gcaggtcgcg ctctcgggga
660
aggtcgtact gcggaagggc gtacgcgatc gcgcggggac agcgctacta cggctttggt
720
cgcacagtgt acccggagga gcacagcaga tggagggaca gatccaggac gaggtcgcgg
780
agcagaaccc cctttcgctt aagtgaaaaa gatcgaatgg agctgttaga aatagcaaaa
840
accaatgcag cgaaagctct aggaacaacc aacattgact tgccagctag tctcagaact
900
gttccttcag ccaaagaaac aagccgtgga ataggtgtat caagtaatgg tgcaaagcct
960
gaactgtcgg aaaaggtaac agaagatgga actcgaaatc ccaatgaaaa acctacccag
1020
```

```
caaagaagca tagctttttag ctctaataat tctgtagcaa agccaataca aaaatcagct
1080
aaagctgcca cagaagaggc atcttcaaga tcaccaaaaa tagatcagaa aaaaagtcca
1140
tatggactgt ggatacctat ctaaaagaag aaaactgatg gctaagtttg catgaaaact
1200
gcactttatt gcaagttagt gtttctagca ttatcccatc cctttgagcc attcaggggt
1260
acttgtgcat ttaaaaacca acacaaaaag atgtaaatac ttaacactca aatattaaca
1320
ttttaggttt ctcttgcaga tatgagagat agcacagatg gaccaaaggt tatgcacagg
1380
tgggagtctt ttgtatatag ttgtaaatat tgtcttggtt atgtaaaaat gaaattttt
1440
agacacagta attgaactgt attcctgttt tgtatattta ataaatttct tgttttcatt
1500
cttaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaga
1549


<210> 5486
<211> 290
<212> PRT
<213> Homo sapiens


<400> 5486
Met Ser Asn Tyr Val Asn Asp Met Trp Pro Gly Ser Pro Gln Glu Lys
1               5               10              15
Asp Ser Pro Ser Thr Ser Arg Ser Gly Gly Ser Ser Arg Leu Ser Ser
            20              25              30
Arg Ser Arg Ser Arg Ser Phe Ser Arg Ser Ser Arg Ser His Ser Arg
        35              40              45
Val Ser Ser Arg Phe Ser Ser Arg Ser Arg Arg Ser Lys Ser Arg Ser
    50              55              60
Arg Ser Arg Arg Arg His Gln Arg Lys Tyr Arg Arg Tyr Ser Arg Ser
65              70              75              80
Tyr Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg Arg Tyr Arg Glu Arg
            85              90              95
Arg Tyr Gly Phe Thr Arg Arg Tyr Tyr Arg Ser Pro Ser Arg Tyr Arg
            100             105             110
Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg Gly Arg Ser Tyr Cys Gly
        115             120             125
Arg Ala Tyr Ala Ile Ala Arg Gly Gln Arg Tyr Tyr Gly Phe Gly Arg
    130             135             140
Thr Val Tyr Pro Glu Glu His Ser Arg Trp Arg Asp Arg Ser Arg Thr
145             150             155             160
Arg Ser Arg Ser Arg Thr Pro Phe Arg Leu Ser Glu Lys Asp Arg Met
            165             170             175
Glu Leu Leu Glu Ile Ala Lys Thr Asn Ala Ala Lys Ala Leu Gly Thr
            180             185             190
Thr Asn Ile Asp Leu Pro Ala Ser Leu Arg Thr Val Pro Ser Ala Lys
        195             200             205
Glu Thr Ser Arg Gly Ile Gly Val Ser Ser Asn Gly Ala Lys Pro Glu
    210             215             220
Leu Ser Glu Lys Val Thr Glu Asp Gly Thr Arg Asn Pro Asn Glu Lys
```

4658

```
        225                      230              235                 240
        Pro Thr Gln Gln Arg Ser Ile Ala Phe Ser Ser Asn Asn Ser Val Ala
                            245                  250                 255
        Lys Pro Ile Gln Lys Ser Ala Lys Ala Ala Thr Glu Glu Ala Ser Ser
                        260                  265                 270
        Arg Ser Pro Lys Ile Asp Gln Lys Lys Ser Pro Tyr Gly Leu Trp Ile
                    275                  280                 285
        Pro Ile
            290
```

<210> 5487
<211> 1716
<212> DNA
<213> Homo sapiens

<400> 5487
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tgacagcagg agcgatggcc gggatcctgg agcactcggt catgtacccg gtggactcgg
120
tgaagagaca gggtcttgcc ttgtcgccta ggctggagtg cagtgttgag atcatagttt
180
actgcagcct cgaactcctg ggtacaagga atcctccctc ctcagcctcc tgagtagctg
240
ggattacaga cacgaatgca gagtttgagt ccagatccca aagcccagta cacaagtatc
300
tacggagccc tcaagaaaat catgcggacc gaaggcttct ggaggccctt gcgaggcgtc
360
aacgtcatga tcatgggtgc agggccagcc catgccatgt attttgcctg ctatgaaaac
420
atgaaaagga ctttaaatga cgttttccac caccaaggaa acagccacct agccaacggg
480
atagctggga gtatggccac cctgctccac gatgcggtaa tgaatccagc agaagtggtg
540
aagcagcgct tgcagatgta caactcgcag caccggtcag caatcagctg catccggacg
600
gtgtggagga ccgaggggtt ggggggcctt caccggagct acaccacgca gctgaccatg
660
aacatcccct tccagtccat ccacttcatc acctatgagt tcctgcagga gcaggtcaac
720
ccccaccgga cctacaaccc gcagtcccac atcatctcag gcgggctggc cggggccctc
780
gccgcggccg ccacgacccc cctggacgtc tgtaagaccc ttctgaacac tcaggagaac
840
gtggccctct cgctggccaa catcagcggc cggctgtcgg gtatggccaa tgccttccgg
900
acggtgtacc agctcaacgg cctggccggc tacttcaaag gcatccaggc gcgtgtcatc
960
taccagatgc cctccaccgc catttcttgg tctgtctatg agttcttcaa gtactttctc
1020
accaagcgcc agctggaaaa tcgagctcca tactaaagga agggatcata gaatcttttc
1080
ttaaagtcat tctctgcctg catccagccc cttgccctct cctcacacgt agatcatttt
1140
```

tttttttgc agggtgctgc ctatgggccc tctgctcccc aatgccttag agagaggagg
1200
ggacgggacg gcacggccgc tcaccggaag gctgtgtgcg gggacatccg aggtggtggt
1260
ggacaggaag gacttgggaa ggggagcgag aaattgcttt ttctcttcct ccctgggcag
1320
aatgtagctt ttctgcttca ctgtggcagc ctcctccctg gatccttaga tcccagagga
1380
gggaagaaaa tttgcagtga ctgaaaacag taaaaaaaaa aaaatttatg tatataaaag
1440
ttgcattaca cagtacaaaa tagatggata atgtttatcc tttatttttc tatgtagaag
1500
tttttgaatt tgtgtgtgtg cttgtgcgtg tctacaccta gtattacggc tgggactctc
1560
cagctgtttt tgttgttgtt atgtttttaa gagggttgaa ttcttccatc aggtgaacga
1620
aaaaggcaac aaagtaataa atcagtgaat gtggccggca gctgtgttta gcccctccag
1680
atggaagttt cacttgaatg taaaataata aagttt
1716


<210> 5488
<211> 272
<212> PRT
<213> Homo sapiens

<400> 5488
Leu Gly Leu Gln Thr Arg Met Gln Ser Leu Ser Pro Asp Pro Lys Ala
 1               5                  10                  15
Gln Tyr Thr Ser Ile Tyr Gly Ala Leu Lys Lys Ile Met Arg Thr Glu
                20                  25                  30
Gly Phe Trp Arg Pro Leu Arg Gly Val Asn Val Met Ile Met Gly Ala
                35                  40                  45
Gly Pro Ala His Ala Met Tyr Phe Ala Cys Tyr Glu Asn Met Lys Arg
        50                  55                  60
Thr Leu Asn Asp Val Phe His His Gln Gly Asn Ser His Leu Ala Asn
65                  70                  75                  80
Gly Ile Ala Gly Ser Met Ala Thr Leu Leu His Asp Ala Val Met Asn
                85                  90                  95
Pro Ala Glu Val Val Lys Gln Arg Leu Gln Met Tyr Asn Ser Gln His
                100                 105                 110
Arg Ser Ala Ile Ser Cys Ile Arg Thr Val Trp Arg Thr Glu Gly Leu
        115                 120                 125
Gly Ala Phe Tyr Arg Ser Tyr Thr Thr Gln Leu Thr Met Asn Ile Pro
        130                 135                 140
Phe Gln Ser Ile His Phe Ile Thr Tyr Glu Phe Leu Gln Glu Gln Val
145                 150                 155                 160
Asn Pro His Arg Thr Tyr Asn Pro Gln Ser His Ile Ile Ser Gly Gly
                165                 170                 175
Leu Ala Gly Ala Leu Ala Ala Ala Thr Thr Pro Leu Asp Val Cys
        180                 185                 190
Lys Thr Leu Leu Asn Thr Gln Glu Asn Val Ala Leu Ser Leu Ala Asn
        195                 200                 205
Ile Ser Gly Arg Leu Ser Gly Met Ala Asn Ala Phe Arg Thr Val Tyr

4660

```
        210              215              220
Gln Leu Asn Gly Leu Ala Gly Tyr Phe Lys Gly Ile Gln Ala Arg Val
225              230              235                        240
Ile Tyr Gln Met Pro Ser Thr Ala Ile Ser Trp Ser Val Tyr Glu Phe
             245              250              255
Phe Lys Tyr Phe Leu Thr Lys Arg Gln Leu Glu Asn Arg Ala Pro Tyr
         260              265              270
```

<210> 5489
<211> 1600
<212> DNA
<213> Homo sapiens

<400> 5489
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aaatttccgg ctcaactcag gcatctccag gtggtcatgg atttggtcca tgagcttctt
60
cagcaagtcc ccaaacggat cctggctgcg cctgtggcag aggttgtact gtttgcaagg
120
ctgttggctg tgctcctgca gctggggggca gcagttctgg ggtgacatga tgcaccacgt
180
gtccaaattg gcacagagct gcaggacgtg gttgatggcc ccatcgagtt tggaggccca
240
gagaatccaa aactggagat gctggaaaag atcctgcaaa ggcagttcag tagctctaac
300
agccctcggg gtatcatctt cacccgcacc cgccaaagcg cacactccct cctgctctgg
360
ctccagcagc agcagggcct gcagactgtg gacatccggg cccagctact gattggggct
420
gggaacagca gccagagcac ccacatgacc cagagggacc agcaagaagt gatccagaag
480
ttccaagatg gaaccctgaa ccttctggtg gccacgagtg tggcggagga ggggctggac
540
atcccacatt gcaatgtggt ggtgcgttat gggctcttga ccaatgaaat ctccatggtc
600
caggccaggg gccgtgcccg ggccgatcag agtgtatacg cgtttgtagc aactgaaggt
660
agccgggagc tgaagcggga gctgatcaac gaggcgctgg agacgctgat ggagcaggca
720
gtggctgctg tgcagaaaat ggaccaggcc gagtaccagg ccaagatccg ggatctgcag
780
caggcagcct tgaccaagcg ggcggcccag gcagcccagc gggagaacca gcggcagcag
840
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900
agcgacctgc ggaaggtgga gggcacccac catgtcaatg tgaaccccaa cttctcgaac
960
tactataatg tctccaggga tcctgtggtc atcaacaaag tcttcaagga ctggaagcct
1020
gggggtgtca tcagctgcag gaactgtggg gaggtctggg gtctgcagat gatctacaag
1080
tcagtgaagc tgccagtgct caaagtccgc agcatgctgc tggagacccc tcaggggcgg
1140
atccaggcca aaaagtggtc ccgcgtgccc ttctccgtgc ctgactttga cttcctgcag
1200
```

```
cattgtgccg agaacttgtc ggacctctcc ctggactgac cacctcattg ctgcagtgcc
1260
cggtttgggc tgtagggggc gggagagtct gcagcagact ccaggcccct ccttcctgaa
1320
tcatcagctg tgggcatcag gcccaccagc cacacaggag tcctgggcac cctggcttag
1380
gctcccgcaa tgggaaaaca accggagggc cagagcttag tccagaccta ccttgtacgc
1440
acatagacat tttcatatgc actggatgga gttagggaaa ctgaggcaaa agaatttgcc
1500
atactgtact cagaatcacg acattccttc cctaccaagg ccacttctat tttttgaggc
1560
tcctcataaa aataaatgaa aaaatgggat agaaaaaaaa
1600
```

```
<210> 5490
<211> 357
<212> PRT
<213> Homo sapiens
```

```
<400> 5490
His Asp Ala Pro Arg Val Gln Ile Gly Thr Glu Leu Gln Asp Val Val
1               5                   10                  15
Asp Gly Pro Ile Glu Phe Gly Gly Pro Glu Asn Pro Lys Leu Glu Met
                20                  25                  30
Leu Glu Lys Ile Leu Gln Arg Gln Phe Ser Ser Ser Asn Ser Pro Arg
            35                  40                  45
Gly Ile Ile Phe Thr Arg Thr Arg Gln Ser Ala His Ser Leu Leu Leu
        50                  55                  60
Trp Leu Gln Gln Gln Gln Gly Leu Gln Thr Val Asp Ile Arg Ala Gln
65                  70                  75                  80
Leu Leu Ile Gly Ala Gly Asn Ser Ser Gln Ser Thr His Met Thr Gln
                85                  90                  95
Arg Asp Gln Gln Glu Val Ile Gln Lys Phe Gln Asp Gly Thr Leu Asn
            100                 105                 110
Leu Leu Val Ala Thr Ser Val Ala Glu Glu Gly Leu Asp Ile Pro His
        115                 120                 125
Cys Asn Val Val Val Arg Tyr Gly Leu Leu Thr Asn Glu Ile Ser Met
    130                 135                 140
Val Gln Ala Arg Gly Arg Ala Arg Ala Asp Gln Ser Val Tyr Ala Phe
145                 150                 155                 160
Val Ala Thr Glu Gly Ser Arg Glu Leu Lys Arg Glu Leu Ile Asn Glu
                165                 170                 175
Ala Leu Glu Thr Leu Met Glu Gln Ala Val Ala Ala Val Gln Lys Met
                180                 185                 190
Asp Gln Ala Glu Tyr Gln Ala Lys Ile Arg Asp Leu Gln Gln Ala Ala
            195                 200                 205
Leu Thr Lys Arg Ala Ala Gln Ala Ala Gln Arg Glu Asn Gln Arg Gln
        210                 215                 220
Gln Phe Pro Val Glu His Val Gln Leu Leu Cys Ile Asn Cys Met Val
225                 230                 235                 240
Ala Val Gly His Gly Ser Asp Leu Arg Lys Val Glu Gly Thr His His
                245                 250                 255
Val Asn Val Asn Pro Asn Phe Ser Asn Tyr Tyr Asn Val Ser Arg Asp
```

```
            260                   265                   270
Pro Val Val Ile Asn Lys Val Phe Lys Asp Trp Lys Pro Gly Gly Val
        275                   280                   285
Ile Ser Cys Arg Asn Cys Gly Glu Val Trp Gly Leu Gln Met Ile Tyr
        290                   295                   300
Lys Ser Val Lys Leu Pro Val Leu Lys Val Arg Ser Met Leu Leu Glu
305                   310                   315                   320
Thr Pro Gln Gly Arg Ile Gln Ala Lys Lys Trp Ser Arg Val Pro Phe
                    325                   330                   335
Ser Val Pro Asp Phe Asp Phe Leu Gln His Cys Ala Glu Asn Leu Ser
                    340                   345                   350
Asp Leu Ser Leu Asp
            355


<210> 5491
<211> 5555
<212> DNA
<213> Homo sapiens


<400> 5491
nntggcgagg cgggaagcac ccggaatctt cctggcccta gagcctgcag gctccaggcc
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ggccccttga atctcaccgc gaggaaggca ccctgctgcc tgcacttatt tgcatccaag
120
agtttgcatt gagactggcg cttgcctact agggcagcca caggggggtt ccccagggac
180
agagattatg tctactttga gaattcctcc agcaacccat acctaataag aaggatagaa
240
gaactcaaca agactgcaag tggcaacgtg gaagcaaaag tagtatgctt ttatagacga
300
cgtgatattt ccaacacact tataatgctc gcagataagc atgctaaaga aattgaggaa
360
gaatctgaaa caacagttga ggctgacttg accgataagc agaaacatca gttgaaacat
420
agggaactct ttttgtcacg ccagtatgaa tctctgcccg caacacatat caggggaaag
480
tgcagtgttg cccttctgaa tgagacagaa tcagtattgt catatcttga taaggaggat
540
accttcttct actcattggt ctatgacccc tcattgaaaa cactattagc tgacaaaggt
600
gaaatcagag tgggacctag atatcaagca gacattccag aaatgctgtt agaaggagaa
660
tcagatgaga gggaacaatc aaaattggaa gttaaagttt gggatccaaa tagcccactt
720
acggatcgac agattgacca gtttttagtt gtagcacgtg ctgttgggac attcgccaga
780
gccctggatt gcagcagttc tgtgaggcag cctagtttgc atatgagtgc tgctgcagct
840
tcccgagaca tcaccttgtt tcacgctatg gatacattgt atagacacag ctatgatttg
900
agcagtgcca ttagtgtctt agtaccactc ggaggacctg ttttatgcag agatgaaatg
960
gaggaatggt cagcctctga agctagctta tttgaagagg cactggaaaa atatggcaaa
1020
```

```
gacttcaatg acatacggca agattttctt ccttggaaat cattgactag catcattgaa
1080
tattattaca tgtggaaaac tactgacaga tatgtgcaac agaaacgtct aaaagcagca
1140
gaagctgaga gtaaactgaa acaagtatat atcccaacct acagcaaacc aaatcccaac
1200
caaatatcca ctagtaatgg gaagcctggt gctgtgaatg gagctgtggg gaccacgttc
1260
cagcctcaga atcctctctt agggagagcc tgtgagagct gctatgctac acagtctcac
1320
cagtggtatt cttggggccc acctaatatg cagtgtagat tatgtgcaat ttgttggctt
1380
tattggaaaa aatatggagg cttgaaaatg cccacccagt cagaagaaga gaagttatct
1440
cctagcccaa ctacagagga ccctcgtgtt agaagtcacg tgtcccgcca ggccatgcag
1500
ggaatgccag tccgaaacac tgggagtcca aagtctgcag tgaagacccg ccaagctttc
1560
ttccttcata ctacatattt cacaaaattt gctcgtcagg tctgcaaaaa taccctccgg
1620
ctgcggcagg cagcaagacg gccgtttgtt gctattaatt atgctgccat tagggcagaa
1680
tatgccgaca gacatgctga actatctgga agtccactga aaagcaaaag cactaggaag
1740
cctttggcat gtatcattgg gtatttagag atccatcctg caaagaaacc taatgtaatt
1800
cgatctacac caagcctgca aaccccaact accaagcgga tgctaacaac tccaaatcac
1860
acatctctga gcattctggg gaaaagaaac tacagtcatc acaatggtct ggatgaactc
1920
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1980
ctgtcctgct gatgttcaca gccgtgcctg ggaagaaggc agccccactc ccagtacatt
2040
tcagtgggag acctctgcgt gcatccatgg agacgcaatg gggcgggaa ggaactgtgg
2100
gagtgcacgt tccaaatcct gtgtctccac gtgtggatca gcagcacctc gctttcttgt
2160
cagagacctc gctgttacgg agcgagacct gctgagaatt gagggctga gggaacccct
2220
ccacctcctc ccttctgcag cgccctgcgc cccacccagc aacagcggcc acttggcagt
2280
ggggctgctg caagctcaga gccgctgcca ccctgcatgt gtccgctcag ctcggtctta
2340
tgctgtatag ttactaaata tgtacaggag ggccatggca tctttctgaa tggatttttc
2400
ttaagaaatg cgccagtgtt tatgaggttc aaggtatttc cctgtccttg ctgttaccgt
2460
cactcagctt tttctcgata ggcttcatcc ttgttttttt gaaatggggg aatttgctgt
2520
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Thr Val Glu Ala Asp Leu Thr Asp Lys Gln Lys His Gln Leu Lys His
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Ile Arg Gly Lys Cys Ser Val Ala Leu Leu Asn Glu Thr Glu Ser Val
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Leu Ser Tyr Leu Asp Lys Glu Asp Thr Phe Phe Tyr Ser Leu Val Tyr
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Gly Pro Arg Tyr Gln Ala Asp Ile Pro Glu Met Leu Leu Glu Gly Glu
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4667

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Leu Lys Ser Lys Ser Thr Arg Lys Pro Leu Ala Cys Ile Ile Gly Tyr
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Leu Glu Ile His Pro Ala Lys Lys Pro Asn Val Ile Arg Ser Thr Pro
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Ser Leu Gln Thr Pro Thr Thr Lys Arg Met Leu Thr Thr Pro Asn His
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Ile Ala Tyr Gly Asp Lys Arg Tyr Asn Cys Glu Tyr Ser Gly Pro Pro
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Lys Pro Leu Pro Lys Asp Gly Tyr Asp Leu Val Gln Glu Leu Cys Pro
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Gly Phe Phe Phe Gly Asn Val Ser Leu Cys Cys Asp Val Arg Gln Leu
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Gln Thr Leu Lys Asp Asn Leu Gln Leu Pro Leu Gln Phe Leu Ser Arg
                85                  90                  95
Cys Pro Ser Cys Phe Tyr Asn Leu Leu Asn Leu Phe Cys Glu Leu Thr
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Ser Ser Gln Ala Arg Leu Glu Lys Glu Tyr Phe Asp Gln His Phe Gly
385                390                395                   400
Pro Phe Phe Arg Thr Glu Gln Leu Ile Ile Arg Ala Pro Leu Thr Asp
                405              410                415
Lys His Ile Tyr Gln Pro Tyr Pro Ser Gly Ala Asp Val Pro Phe Gly
            420              425                430
Pro Pro Leu Asp Ile Gln Ile Leu His Gln Val Leu Asp Leu Gln Ile
            435              440                445
Ala Ile Glu Asn Ile Thr Ala Ser Tyr Asp Asn Glu Thr Val Thr Leu
        450              455                460
Gln Asp Ile Cys Leu Ala Pro Leu Ser Pro Tyr Asn Thr Asn Cys Thr
465                470                475                   480
Ile Leu Ser Val Leu Asn Tyr Phe Gln Asn Ser His Ser Val Leu Asp
                485              490                495
His Lys Lys Gly Asp Asp Phe Phe Val Tyr Ala Asp Tyr His Thr His
            500              505                510
Phe Leu Tyr Cys Val Arg Ala Pro Ala Ser Leu Asn Asp Thr Ser Leu
        515              520                525
Leu His Asp Pro Cys Leu Gly Thr Phe Gly Gly Pro Val Phe Pro Trp
        530              535                540
Leu Val Leu Gly Gly Tyr Asp Asp Gln Asn Tyr Asn Asn Ala Thr Ala
545                550                555                   560
Leu Val Ile Thr Phe Pro Val Asn Asn Tyr Tyr Asn Asp Thr Glu Lys
                565              570                575
Leu Gln Arg Ala Gln Ala Trp Glu Lys Glu Phe Ile Asn Phe Val Lys
```

```
            580                    585                 590
Asn Tyr Lys Asn Pro Asn Leu Thr Ile Ser Phe Thr Ala Glu Arg Ser
        595                    600                 605
Ile Glu Asp Glu Leu Asn Arg Glu Ser Asp Ser Asp Val Phe Thr Val
    610                    615                 620
Val Ile Ser Tyr Ala Ile Met Phe Leu Tyr Ile Ser Leu Ala Leu Gly
625                    630                 635                 640
His Ile Lys Ser Cys Arg Arg Leu Leu Val Asp Ser Lys Val Ser Leu
                645                    650                 655
Gly Ile Ala Gly Ile Leu Ile Val Leu Ser Ser Val Ala Cys Ser Leu
                660                    665                 670
Gly Val Phe Ser Tyr Ile Gly Leu Pro Leu Thr Leu Ile Val Ile Glu
        675                    680                 685
Val Ile Pro Phe Leu Val Leu Ala Val Gly Val Asp Asn Ile Phe Ile
    690                    695                 700
Leu Val Gln Ala Tyr Gln Arg Asp Glu Arg Leu Gln Gly Glu Thr Leu
705                    710                 715                 720
Asp Gln Gln Leu Gly Arg Val Leu Gly Glu Val Ala Pro Ser Met Phe
                725                    730                 735
Leu Ser Ser Phe Ser Glu Thr Val Ala Phe Phe Leu Gly Ala Leu Ser
                740                    745                 750
Val Met Pro Ala Val His Thr Phe Ser Leu Phe Ala Gly Leu Ala Val
                755                    760                 765
Phe Ile Asp Phe Leu Leu Gln Ile Thr Cys Phe Val Ser Leu Leu Gly
    770                    775                 780
Leu Asp Ile Lys Arg Gln Glu Lys Asn Arg Leu Asp Ile Phe Cys Cys
785                    790                 795                 800
Val Arg Gly Ala Glu Asp Gly Thr Ser Val Gln Ala Ser Glu Ser Cys
                805                    810                 815
Leu Phe Arg Phe Phe Lys Asn Ser Tyr Ser Pro Leu Leu Leu Lys Asp
                820                    825                 830
Trp Met Arg Pro Ile Val Ile Ala Ile Phe Val Gly Val Leu Ser Phe
        835                    840                 845
Ser Ile Ala Val Leu Asn Lys Val Asp Ile Gly Leu Asp Gln Ser Leu
    850                  855                 860
Ser Met Pro Asp Asp Ser Tyr Met Val Asp Tyr Phe Lys Ser Ile Ser
865                    870                 875                 880
Gln Tyr Leu His Ala Gly Pro Pro Val Tyr Phe Val Leu Glu Glu Gly
                885                    890                 895
His Asp Tyr Thr Ser Ser Lys Gly Gln Asn Met Val Cys Gly Gly Met
                900                    905                 910
Gly Cys Asn Asn Asp Ser Leu Val Gln Gln Ile Phe Asn Ala Ala Gln
        915                    920                 925
Leu Asp Asn Tyr Thr Arg Ile Gly Phe Ala Pro Ser Ser Trp Ile Asp
        930                    935                 940
Asp Tyr Phe Asp Trp Val Lys Pro Gln Ser Ser Cys Cys Arg Val Asp
945                    950                 955                 960
Asn Ile Thr Asp Gln Phe Cys Asn Ala Ser Val Val Asp Pro Ala Cys
                965                    970                 975
Val Arg Cys Arg Pro Leu Thr Pro Gly Gly Lys Gln Arg Pro Gln Gly
            980                    985                 990
Gly Asp Phe Met Arg Phe Leu Pro Met Phe Leu Ser Asp Asn Pro Asn
        995                    1000                1005
Pro Lys Cys Gly Lys Gly Gly His Ala Ala Tyr Ser Ser Ala Val Asn
```

```
              1010                    1015                    1020
Ile Leu Leu Gly His Gly Thr Arg Val Gly Ala Thr Tyr Phe Met Thr
1025                    1030                    1035                    1040
Tyr His Thr Val Leu Gln Thr Ser Ala Asp Phe Ile Asp Ala Leu Lys
                   1045                    1050                    1055
Lys Ala Arg Leu Ile Ala Ser Asn Val Thr Glu Thr Met Gly Ile Asn
                   1060                    1065                    1070
Gly Ser Ala Tyr Arg Val Phe Pro Tyr Ser Val Phe Tyr Val Phe Tyr
              1075                    1080                    1085
Glu Gln Tyr Leu Thr Ile Ile Asp Asp Thr Ile Phe Asn Leu Gly Val
         1090                    1095                    1100
Ser Leu Gly Ala Ile Phe Leu Val Thr Met Val Leu Leu Gly Cys Glu
1105                    1110                    1115                    1120
Leu Trp Ser Ala Val Ile Met Cys Ala Thr Ile Ala Met Val Leu Val
                   1125                    1130                    1135
Asn Met Phe Gly Val Met Trp Leu Trp Gly Ile Ser Leu Asn Ala Val
                   1140                    1145                    1150
Ser Leu Val Asn Leu Val Met Ser Cys Gly Ile Ser Val Glu Phe Cys
              1155                    1160                    1165
Ser His Ile Thr Arg Ala Phe Thr Val Ser Met Lys Gly Ser Arg Val
         1170                    1175                    1180
Glu Arg Ala Glu Glu Ala Leu Ala His Met Gly Ser Ser Val Phe Ser
1185                    1190                    1195                    1200
Gly Ile Thr Leu Thr Lys Phe Gly Gly Ile Val Val Leu Ala Phe Ala
                   1205                    1210                    1215
Lys Ser Gln Ile Phe Gln Ile Phe Tyr Phe Arg Met Tyr Leu Ala Met
              1220                    1225                    1230
Val Leu Leu Gly Ala Thr His Gly Leu Ile Phe Leu Pro Val Leu Leu
         1235                    1240                    1245
Ser Tyr Ile Gly Pro Ser Val Asn Lys Ala Lys Ser Cys Ala Thr Glu
         1250                    1255                    1260
Glu Arg Tyr Lys Gly Thr Glu Arg Glu Arg Leu Leu Asn Phe
1265                    1270                    1275
```

```
<210> 5495
<211> 2414
<212> DNA
<213> Homo sapiens

<400> 5495
agacctgcac cgggccaggc aagatggcgg ccatggagac cgagacggcg ccgctgaccc
60
tagagtcgct gcccaccgat cccctgctcc tcatcttatc cttttttggac tatcgggatc
120
taatcaactg ttgttatgtc agtcgaagac ttagccagct atcaagtcat gatccgctgt
180
ggagaagaca ttgcaaaaaa tactggctga tatctgagga agagaaaaca cagaagaatc
240
agtgttggaa atctctcttc atagatactt actctgatgt aggaagatac attgaccatt
300
atgctgctat taaaaaggcc tgggatgatc tcaagaaata tttggagccc aggtgtcctc
360
ggatggtttt atctctgaaa gagggtgctc gagaggaaga cctcgatgct gtggaagcgc
420
```

```
agattgggct gcaagtttcc tggacgatta tcgatgttca taccgaattc acaatggaca
480
gaagttagtt ggttcctggg gttattggga agcatggcac tgtctaatca ctatcgttct
540
gaagatttgt tagacgtcga tacagctgcc ggaggattcc agcagagaca gggactgaaa
600
tactgtctcc ctttaacttt ttgcatacat actggtttga gtcagtacat agcagtggaa
660
gctgcagagg gccgaaacaa aaatgaagtt ttctaccaat gtccagacca aatggctcga
720
aatccagctg ctattgacat gtttattata ggtgctactt ttactgactg gtttacctct
780
tatgtcaaaa atgttgtatc aggtggcttc cccatcatca gagaccaaat tttcagatat
840
gttcacgatc cagaatgtgt agcaacaact ggggatatta ctgtgtcagt ttccacatcg
900
tttctgccag aacttagctc tgtacatcca ccccactatt tcttcacata ccgaatcagg
960
attgaaatgt caaaagatgc acttcctgag aaggcctgtc agttggacag tcgctattgg
1020
agaataacaa atgctaaggg tgacgtggaa gaagttcaag gacctggagt agttggtgaa
1080
tttccaatca tcagcccagg tcgggtatat gaatacacaa gctgtaccac attctctaca
1140
acatcaggat acatggaagg gtattatacc ttccattttc tttactttaa agacaagatc
1200
tttaatgttg ccattccccg attccatatg gcatgtccaa cattcagggt gtctatagcc
1260
cgattggaaa tgggtcctga tgaatatgaa gagatggaag aagaggagga ggaggaagag
1320
gaggaagacg aggatgatga ttcagcagat atggatgaat cagatgaaga tgatgaagag
1380
gagagacgga ggagagtctt tgatgttccc attcgcagac gccgctgctc acgccttttt
1440
tagcaagcct tctgctgatg gaagcactag gatgattcta ggctgttaaa tagatttctc
1500
aataatgtaa ataactaaat tgttctctgc atatagcagg aaaactagca tgaaatattg
1560
tttcaggccc tgggttctat gtgacactac attaggaatt ggattgtttg ggtttgcttt
1620
gtgtttttga ggtagaggaa gaaatgggaa tctttttttt ctcttccagg agtcagtgga
1680
agaatagttc tctagctaag gaacggacat acctttgttt taaaatattt tatacttaca
1740
aaaatctaga aatggagagg gaactgtttt gaataaggat ttaaaatacc tgcacaagga
1800
tagagagaaa ctatgtgact cattctgtga aaagacttct tgcagttgtg agttatttag
1860
aaatgatcaa aatttgtaat taggctaatc catttagtga ttcctaatat tttgtactca
1920
cagagaacta attgactaaa caacttgaac gctagtggtt tgtccttaga caatctgtct
1980
ttgaatttaa agtctttatc gctaagacct tgactttaaa tttttcatca ctacaacctt
2040
```

```
gaatttaatt tcaggtcttc aacatgatga ccttggattt aatttaaagt cttcaacact
2100
atgcgcttta tcatattatt cacagatgca tttttgaaat gtagtatgta aaagtatgta
2160
acgtgctgtt tattaacaaa agattgttca caacatctca tgtagtttaa atttgtaaat
2220
actgcttctg ttttgtttct cctttataca cttgactgtc tttgtgataa gtgacatgaa
2280
ttttatgtta ggattaagta tgttttcctg aaacttggat ttttttgta attatataat
2340
tgagagttaa gaatgaaatc cttcaagtgt taaaaactca cattttaaaa gcaaattttg
2400
gttccaaaaa aaaa
2414
```

```
<210> 5496
<211> 345
<212> PRT
<213> Homo sapiens
```

```
<400> 5496
Met Leu Trp Lys Arg Arg Leu Gly Cys Lys Phe Pro Gly Arg Leu Ser
  1               5                  10                  15
Met Phe Ile Pro Asn Ser Gln Trp Thr Glu Val Ser Trp Phe Leu Gly
                20                  25                  30
Leu Leu Gly Ser Met Ala Leu Ser Asn His Tyr Arg Ser Glu Asp Leu
          35                  40                  45
Leu Asp Val Asp Thr Ala Ala Gly Gly Phe Gln Gln Arg Gln Gly Leu
      50                  55                  60
Lys Tyr Cys Leu Pro Leu Thr Phe Cys Ile His Thr Gly Leu Ser Gln
65                  70                  75                  80
Tyr Ile Ala Val Glu Ala Ala Glu Gly Arg Asn Lys Asn Glu Val Phe
                    85                  90                  95
Tyr Gln Cys Pro Asp Gln Met Ala Arg Asn Pro Ala Ala Ile Asp Met
              100                 105                 110
Phe Ile Ile Gly Ala Thr Phe Thr Asp Trp Phe Thr Ser Tyr Val Lys
          115                 120                 125
Asn Val Val Ser Gly Gly Phe Pro Ile Ile Arg Asp Gln Ile Phe Arg
      130                 135                 140
Tyr Val His Asp Pro Glu Cys Val Ala Thr Thr Gly Asp Ile Thr Val
145                 150                 155                 160
Ser Val Ser Thr Ser Phe Leu Pro Glu Leu Ser Ser Val His Pro Pro
                165                 170                 175
His Tyr Phe Phe Thr Tyr Arg Ile Arg Ile Glu Met Ser Lys Asp Ala
              180                 185                 190
Leu Pro Glu Lys Ala Cys Gln Leu Asp Ser Arg Tyr Trp Arg Ile Thr
          195                 200                 205
Asn Ala Lys Gly Asp Val Glu Glu Val Gln Gly Pro Gly Val Val Gly
      210                 215                 220
Glu Phe Pro Ile Ile Ser Pro Gly Arg Val Tyr Glu Tyr Thr Ser Cys
225                 230                 235                 240
Thr Thr Phe Ser Thr Thr Ser Gly Tyr Met Glu Gly Tyr Tyr Thr Phe
                245                 250                 255
His Phe Leu Tyr Phe Lys Asp Lys Ile Phe Asn Val Ala Ile Pro Arg
```

4677

```
                   260                    265                    270
Phe His Met Ala Cys Pro Thr Phe Arg Val Ser Ile Ala Arg Leu Glu
             275                    280                    285
Met Gly Pro Asp Glu Tyr Glu Glu Met Glu Glu Glu Glu Glu Glu Glu
          290                    295                    300
Glu Glu Glu Asp Glu Asp Asp Asp Ser Ala Asp Met Asp Glu Ser Asp
305                    310                    315                    320
Glu Asp Asp Glu Glu Glu Arg Arg Arg Arg Val Phe Asp Val Pro Ile
                   325                    330                    335
Arg Arg Arg Arg Cys Ser Arg Leu Phe
             340                    345
```

<210> 5497
<211> 1056
<212> DNA
<213> Homo sapiens

<400> 5497
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cacgaggaag aatgtggaag gatctcccat tggccggttg gggcaaaagc ctgaggcaat
60
ctttcatccc cttttgccaa ggcgagactt tcccagtgac ggtgatgtag ttggccactc
120
tgactatggg tggactcggg tgtagacctc tgaagctgag atcacacgaa aacctggcct
180
ccccgccatg tagctgttgg agagtagaaa aatagagcac gcctgatgtt tctaaatgag
240
aagactttca atagtaatga agaatccatg gcactctcct caccctcaaa cacatggcag
300
tcattcacat acaggcccca aagtcactgt tagtgctgca gtggctcctg tggacattgg
360
aaagcccgga gagggcgtgg aagaaatcag ctggcccccg gcaggttctc tggggttttg
420
tgcccaaggc tcctggagcc ctaaaaactt tcaaaagtta actccccacg tccccatcct
480
gcttgggttt ctggactttt ctgaggcacc ggcagagggg tctcgttgct cccttgagtg
540
taggggcagc cctttaacct ggctccttga gtccctgctt tttctgcttc tgttgccttc
600
ttcctcgtct tcctctctct caatatctcc ctctctttgt ccctccccag ttcctgacct
660
ggccatcccg gggtgccctt gaccagcccc gtgtctcctc agggtgtccc agcaccagcc
720
tggcacagag tggggctcag ttagagtatg tgggatgttg gtttcgccag gtgagtgaat
780
gaaaggactc gaccaccaca gctgagccac tagctgggcc atgcgaagag ttctaggtgc
840
aaaggctgga gggtggaatt catttttgag aggtgtgtga gcagcttccg acccctgccc
900
catttgaacg ggggccttgc tggtcgcgtc cctgcattca cccgcgcggc catcccgtca
960
tccaacagtt gatcctaact gagcacgccc acggccctgg tctggcctgg gcaccggcga
1020
ccgtagccca tcccttgatg gcctctgtgt ccccag
1056
```

<210> 5498
<211> 150
<212> PRT
<213> Homo sapiens

<400> 5498
Met Gly Gln Gly Ser Glu Ala Ala His Thr Pro Leu Lys Asn Glu Phe
1   5   10   15
His Pro Pro Ala Phe Ala Pro Arg Thr Leu Arg Met Ala Gln Leu Val
            20   25   30
Ala Gln Leu Trp Trp Ser Ser Pro Phe Ile His Ser Pro Gly Glu Thr
        35   40   45
Asn Ile Pro His Thr Leu Thr Glu Pro His Ser Val Pro Gly Trp Cys
    50   55   60
Trp Asp Thr Leu Arg Arg His Gly Ala Gly Gln Gly His Pro Gly Met
65   70   75   80
Ala Arg Ser Gly Thr Gly Glu Gly Gln Arg Glu Gly Asp Ile Glu Arg
            85   90   95
Glu Glu Asp Glu Glu Glu Gly Asn Arg Ser Arg Lys Ser Arg Asp Ser
            100   105   110
Arg Ser Gln Val Lys Gly Leu Pro Leu His Ser Arg Glu Gln Arg Asp
        115   120   125
Pro Ser Ala Gly Ala Ser Glu Lys Ser Arg Asn Pro Ser Arg Met Gly
    130   135   140
Thr Trp Gly Val Asn Phe
145   150

<210> 5499
<211> 1918
<212> DNA
<213> Homo sapiens

<400> 5499
ngctagccct gtatctgtct gagcagtgga atgtgccagg aaagaaggag caaccactga
60
ctgatgaacc tttgccagtc tcccttccaa gagggatgcc agagccttct gtctttgggc
120
tgcctctgcc cttcgtagat tctctgctgg gcctttggaa ctaacacagc aacttccagg
180
gtctcatgtt gaagacttta tggagcatcc tggccagaac aagccaagga gccaagacga
240
gagggacaca cggacaaaca acagacagaa gacgtactgg ccgctggact ccgctgcctc
300
ccccatctcc ccgccatctg cgcccggagg atgagcccag ccttcagggc catggatgtg
360
gagccccgcg ccaaaggcgt ccttctggag cccttgtcc accaggtcgg ggggcactca
420
tgcgtgctcc gcttcaatga dacaaccctg tgcaagcccc tggtcccaag ggaacatcag
480
ttctacgaga ccctccctgc tgagatgcgc aaattcactc cccagtacaa aggtgtggta
540
tctgtgcgct ttgaagaaga tgaagacagg aacttgtgtc taatagcata tccattgaaa
600

```
ggggaccatg gaattgtgga cattgcacat aattcagact gtgaaccaaa aagtaagctc
660
ctaaggtgga caacaaacaa aaaacatcat gtcttagaaa cagaaaagac ccctaaggac
720
tgggtgcgtc agcaccgtaa agaggagaaa atgaagagcc ataagttaga agaagaattt
780
gagtggctaa agaaatctga agtcttgtac tacactgtag agaagaaggg gaatataagt
840
tcccagctta aacactataa cccttggagc atgaaatgtc accagcaaca gttacagaga
900
atgaaggaga atgcaaagca tcggaaccag tacaaattta tcttactgga aaacctgact
960
tcccgctatg aggtgccttg tgtccttgac ctcaagatgg gcacacgaca acatggtgat
1020
gatgcttcag aggagaaggc agccaaccag atccgaaaat gtcagcagag cacatctgca
1080
gtcattggtg tgnctgtgtg tggcatgcag gtgtaccaag caggcagtgg gcagctcatg
1140
ttcatgaaca agtaccatgg acggaagcta tcggtgcagg gcttcaagga ggcacttttc
1200
cagttcttcc acaatgggcg gtacctgcgc cgtgaactcc tgggccctgt gctcaagaag
1260
ctgactgagc tcaaggcagt gttggagcga caggagtcct accgcttcta ctcaagctcc
1320
ctgctggtca tttatgatgg caaggagcgg cccgaagtgg tcctggactc agatgctgag
1380
gatttggagg acctgtcaga ggaatcagct gatgagtctg ctggtgccta tgcctacaaa
1440
cccatcggcg ccagctctgt agatgtgcgc atgatcgact ttgcacacac cacctgcagg
1500
ctgtatggcg aggacaccgt ggtgcatgag ggccaggatg ctggctatat cttcgggctc
1560
cagagcctga tagacattgt cacagagata agtgaggaga gtggggagtg agcttgctag
1620
ctgctccagt acttgagagc gactctgtgt cccaggcaca gctgtgctgc gtcagggagg
1680
aagccagtat ggccaggtgg tggctcctgc agcctggagc tgatgtgcag tggcctctgt
1740
gagccccagc ctgagccagt cccagctgtg cttggagtct ttatttattt taactatttc
1800
ttcaacattc cacatttgat gatgatacct ctttcttccc tgagtgtata tgttctaata
1860
caaatctttt tgtttattgt aaaaaaaaaa aaaaaaaaaa aagaaaaac tcgaaaag
1918
```

```
<210> 5500
<211> 426
<212> PRT
<213> Homo sapiens
```

```
<400> 5500
Met Ser Pro Ala Phe Arg Ala Met Asp Val Glu Pro Arg Ala Lys Gly
 1               5                   10                  15
Val Leu Leu Glu Pro Phe Val His Gln Val Gly Gly His Ser Cys Val
```

4680

```
              20                    25                    30
Leu Arg Phe Asn Glu Thr Thr Leu Cys Lys Pro Leu Val Pro Arg Glu
          35                    40                    45
His Gln Phe Tyr Glu Thr Leu Pro Ala Glu Met Arg Lys Phe Thr Pro
      50                    55                    60
Gln Tyr Lys Gly Val Val Ser Val Arg Phe Glu Glu Asp Glu Asp Arg
65                    70                    75                    80
Asn Leu Cys Leu Ile Ala Tyr Pro Leu Lys Gly Asp His Gly Ile Val
                  85                    90                    95
Asp Ile Ala His Asn Ser Asp Cys Glu Pro Lys Ser Lys Leu Leu Arg
              100                   105                   110
Trp Thr Thr Asn Lys Lys His His Val Leu Glu Thr Glu Lys Thr Pro
          115                   120                   125
Lys Asp Trp Val Arg Gln His Arg Lys Glu Glu Lys Met Lys Ser His
      130                   135                   140
Lys Leu Glu Glu Glu Phe Glu Trp Leu Lys Lys Ser Glu Val Leu Tyr
145                   150                   155                   160
Tyr Thr Val Glu Lys Lys Gly Asn Ile Ser Ser Gln Leu Lys His Tyr
                  165                   170                   175
Asn Pro Trp Ser Met Lys Cys His Gln Gln Gln Leu Gln Arg Met Lys
              180                   185                   190
Glu Asn Ala Lys His Arg Asn Gln Tyr Lys Phe Ile Leu Leu Glu Asn
          195                   200                   205
Leu Thr Ser Arg Tyr Glu Val Pro Cys Val Leu Asp Leu Lys Met Gly
      210                   215                   220
Thr Arg Gln His Gly Asp Asp Ala Ser Glu Glu Lys Ala Ala Asn Gln
225                   230                   235                   240
Ile Arg Lys Cys Gln Gln Ser Thr Ser Ala Val Ile Gly Val Xaa Val
                  245                   250                   255
Cys Gly Met Gln Val Tyr Gln Ala Gly Ser Gly Gln Leu Met Phe Met
              260                   265                   270
Asn Lys Tyr His Gly Arg Lys Leu Ser Val Gln Gly Phe Lys Glu Ala
          275                   280                   285
Leu Phe Gln Phe Phe His Asn Gly Arg Tyr Leu Arg Arg Glu Leu Leu
      290                   295                   300
Gly Pro Val Leu Lys Lys Leu Thr Glu Leu Lys Ala Val Leu Glu Arg
305                   310                   315                   320
Gln Glu Ser Tyr Arg Phe Tyr Ser Ser Ser Leu Leu Val Ile Tyr Asp
                  325                   330                   335
Gly Lys Glu Arg Pro Glu Val Val Leu Asp Ser Asp Ala Glu Asp Leu
              340                   345                   350
Glu Asp Leu Ser Glu Glu Ser Ala Asp Glu Ser Ala Gly Ala Tyr Ala
          355                   360                   365
Tyr Lys Pro Ile Gly Ala Ser Ser Val Asp Val Arg Met Ile Asp Phe
      370                   375                   380
Ala His Thr Thr Cys Arg Leu Tyr Gly Glu Asp Thr Val Val His Glu
385                   390                   395                   400
Gly Gln Asp Ala Gly Tyr Ile Phe Gly Leu Gln Ser Leu Ile Asp Ile
                  405                   410                   415
Val Thr Glu Ile Ser Glu Glu Ser Gly Glu
              420                   425
```

<210> 5501
<211> 568

<212> DNA
<213> Homo sapiens

<400> 5501
attcggcacg aggtgagtcg gtggcaggaa cgtgggctct agactgtgca ttcaggctct
60
cctacttggc agaatgatct tggggaaacg acttcatctg aacttcagat atttcacatg
120
tgaagcgggg acaaaaccat gcagctcaga ggtccctgtg ggggctgggg gagctgccct
180
gcaggtcttg gcacatgcac agcaggctcc ccatagcttt gtcaccacaa agggcactgt
240
tctattcaca gcacctcctg cttctgcctg gcaactgtgt ctccctgtgc tatatttaat
300
tccaccagca aagctggcga ggcagggccc agccctgaag gagatctcct tgcctgaccc
360
ctggacctgg aaatggaggc ttcatgtgcc cgccttggcg gcttaagcct gctgctttgg
420
cagtgccatg ggtgagccga gcagctgtga ggtgggtggg gcagggctgt agcccacgcc
480
gggtgctatt ccaggctcta ggggctggtg ctcatcccca cccccagcga cttccgtcct
540
acctggcatg ctgcagccct ctgccggc
568

<210> 5502
<211> 110
<212> PRT
<213> Homo sapiens

<400> 5502
Met Ile Leu Gly Lys Arg Leu His Leu Asn Phe Arg Tyr Phe Thr Cys
 1   5   10   15
Glu Ala Gly Thr Lys Pro Cys Ser Ser Glu Val Pro Val Gly Ala Gly
                20   25   30
Gly Ala Ala Leu Gln Val Leu Ala His Ala Gln Gln Ala Pro His Ser
            35   40   45
Phe Val Thr Thr Lys Gly Thr Val Leu Phe Thr Ala Pro Pro Ala Ser
        50   55   60
Ala Trp Gln Leu Cys Leu Pro Val Leu Tyr Leu Ile Pro Pro Ala Lys
65   70   75   80
Leu Ala Arg Gln Gly Pro Ala Leu Lys Glu Ile Ser Leu Pro Asp Pro
                85   90   95
Trp Thr Trp Lys Trp Arg Leu His Val Pro Ala Leu Ala Ala
                100   105   110

<210> 5503
<211> 1679
<212> DNA
<213> Homo sapiens

<400> 5503
tgtctgggaa aagggaactc acaaggggtg agtaccccca aattaggaga taccatgagc
60

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taacgccgtc tcagaattgc ataaatttgt ctacattttt caaagaagtt gggttatctg
120
atttaatcct cacaatagtc aagctaggaa ggtaagtgtg gaattattac cccatttgat
180
aggtagacaa attaaagctt aagatcaaac cgtttgcaaa gcaggaagca gcacttcctc
240
ttggtccagt tcttccttct ccctggtgct aaggtcagtg gatgttggct ccccacaggc
300
cagaaagctg gagagaagcc cctggctgca ggacccgggg aggaggaact gctccggggc
360
tcagcccctc atgctcagga cactcagagt gaggaactgc caccctcctg caccatctca
420
ggagagaaga agccgccagc agtctctgga gaagccaccg gggctgatgc tgggagactg
480
tgcccgcccc cccgctccag ggctccccac aaagacagaa ctctagcccg ctccaggccc
540
cagactcagg gggaagattg ttccctccca gtgggagagg tgaagatagg aaagaggtcc
600
tattctccag cccccgggaa gcagaaaaag cctaatgcca tgggtctggc cccaacatca
660
tctccgggtg cccctaactc agcccgtgcc acacaacc cagtgccctg tgggtcaggc
720
cggggccct gccacctggc caatctcctc agtacattgg cgcagagcaa ccaaaacaga
780
gaccacaagc aggggccccc ggaagtgacc tgccaaatta ggaaaaagac acgaaccccta
840
taccgctcag atcagctgga ggagctagag aagatattcc aagaagacca ctatcctgac
900
agtgataaac gccgagagat tgcccagacg gtgggggtga cccccccagcg catcatggta
960
aagggggccg gctcactggt ggcagggtgg agtggcggag ggcccaccat tgaaacactc
1020
gaattgcaga gtgagcgctc agcggtagcc tgggtgtggt tccagaatcg ccgggccaag
1080
tggcgaaaaa tggagaaact gaatgggaaa gaaagcaagg acaatcctgc agcccctggc
1140
cctgccagca gtcaatgcag ctctgcagct gagatcctac ctgctgtgcc catggagcca
1200
aagcctgacc ctttcccctca ggagtcccct ctggatacct ttccagagcc ccccatgctg
1260
ctgacttctg accagacttt ggcccccacc caacccagtg agggtgctca gagggtggtg
1320
accccccac tcttcagccc cccacctgtg cgaagggccg atcttccttt cccccttggc
1380
cctgtccaca ccccccaact gatgccactg ctgatggatg ttgctggcag tgacagcagc
1440
cacaaggacg gccctgtgg gtcctggggg acaaggtaag gaacctacgg gggtaggtca
1500
ctctagttat ctgggtgggg gtaggggggt gtagatggag agaagataga cacagagagg
1560
agagggttaa ctgagaggag cacagagtgg tacaggagat ggggatgaaa gggataaggg
1620
gatctgggga atgacctagg ggatcacagc aatagagcag aaacaagggt aagatgcta
1679
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4683

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<210> 5504
<211> 392
<212> PRT
<213> Homo sapiens

<400> 5504
Gln Lys Ala Gly Glu Lys Pro Leu Ala Ala Gly Pro Gly Glu Glu Glu
1               5                   10                  15
Leu Leu Arg Gly Ser Ala Pro His Ala Gln Asp Thr Gln Ser Glu Glu
            20                  25                  30
Leu Pro Pro Ser Cys Thr Ile Ser Gly Glu Lys Lys Pro Pro Ala Val
        35                  40                  45
Ser Gly Glu Ala Thr Gly Ala Asp Ala Gly Arg Leu Cys Pro Pro Pro
    50                  55                  60
Arg Ser Arg Ala Pro His Lys Asp Arg Thr Leu Ala Arg Ser Arg Pro
65                  70                  75                  80
Gln Thr Gln Gly Glu Asp Cys Ser Leu Pro Val Gly Glu Val Lys Ile
                85                  90                  95
Gly Lys Arg Ser Tyr Ser Pro Ala Pro Gly Lys Gln Lys Lys Pro Asn
            100                 105                 110
Ala Met Gly Leu Ala Pro Thr Ser Ser Pro Gly Ala Pro Asn Ser Ala
        115                 120                 125
Arg Ala Thr His Asn Pro Val Pro Cys Gly Ser Gly Arg Gly Pro Cys
        130                 135                 140
His Leu Ala Asn Leu Leu Ser Thr Leu Ala Gln Ser Asn Gln Asn Arg
145                 150                 155                 160
Asp His Lys Gln Gly Pro Pro Glu Val Thr Cys Gln Ile Arg Lys Lys
                165                 170                 175
Thr Arg Thr Leu Tyr Arg Ser Asp Gln Leu Glu Glu Leu Glu Lys Ile
                180                 185                 190
Phe Gln Glu Asp His Tyr Pro Asp Ser Asp Lys Arg Arg Glu Ile Ala
            195                 200                 205
Gln Thr Val Gly Val Thr Pro Gln Arg Ile Met Val Lys Gly Ala Gly
    210                 215                 220
Ser Leu Val Ala Gly Trp Ser Gly Gly Gly Pro Thr Ile Glu Thr Leu
225                 230                 235                 240
Glu Leu Gln Ser Glu Arg Ser Ala Val Ala Trp Val Trp Phe Gln Asn
                245                 250                 255
Arg Arg Ala Lys Trp Arg Lys Met Glu Lys Leu Asn Gly Lys Glu Ser
            260                 265                 270
Lys Asp Asn Pro Ala Ala Pro Gly Pro Ala Ser Ser Gln Cys Ser Ser
            275                 280                 285
Ala Ala Glu Ile Leu Pro Ala Val Pro Met Glu Pro Lys Pro Asp Pro
        290                 295                 300
Phe Pro Gln Glu Ser Pro Leu Asp Thr Phe Pro Glu Pro Pro Met Leu
305                 310                 315                 320
Leu Thr Ser Asp Gln Thr Leu Ala Pro Thr Gln Pro Ser Glu Gly Ala
                325                 330                 335
Gln Arg Val Val Thr Pro Pro Leu Phe Ser Pro Pro Pro Val Arg Arg
            340                 345                 350
Ala Asp Leu Pro Phe Pro Leu Gly Pro Val His Thr Pro Gln Leu Met
        355                 360                 365
Pro Leu Leu Met Asp Val Ala Gly Ser Asp Ser Ser His Lys Asp Gly
```

4684

```
     370                   375                   380
Pro Cys Gly Ser Trp Gly Thr Arg
385                   390


<210> 5505
<211> 1099
<212> DNA
<213> Homo sapiens


<400> 5505
aagcttgggc ggcccagcgg atcgtgccgc ggcggccgag cgcagctaca ggagggtgtc
60
cagaagccac aagccatggc tgtggggaac atcaacgagc tgcccgagaa catcctgctg
120
gagctgttca cgcacgtgcc cgcccgccag ctgctgctga actgccgcct ggtctgcagc
180
ctctggcggg acctcatcga cctcgtgacc ctctggaaac gcaagtgcct gcgagagggc
240
ttcatcactg aggactggga ccagcccgtg gccgactgga agatcttcta cttcttacgg
300
agcctgcaca ggaacctcct gcacaacccg tgcgctgaag aggggttcga gttctggagc
360
ctggatgtga atggaggcga tgagtggaag gtggaggatc tctctcgaga ccagaggaag
420
gaattcccca atgaccaggt caagaaatac ttcgttactt catattacac ctgcctcaag
480
tcccaggtgg tggacctcaa ggccgaaggg tattgggagg agctactaga cacattccgg
540
ccggacatcg tggttaagga ctggtttgct gccagagccg actgtggctg cacctaccaa
600
ctcaaagtgc agctcctgtc ggctgactac ttcgtgttgg cctccttcga gccagacccg
660
gcgaccatcc agcagaagag cgatgccaag tggagggagg tctcccacac attctccaac
720
tacccgcccg gcgtccgcta catctggttt cagcacggcg cgtggacac tcattactgg
780
gccggctggt acggcccgag ggtcaccaac agcagcatca ccatcgggcc cccgctgccc
840
tgacacccc tgagccccca tctgctgaac cctgactggt aaacaactgc tgtcagaaaa
900
gggctgggct tgggaagggg aggtggaggc caggtgtccc cagacctcta acccttgccc
960
ctagcagcct cttctttgtg gagcctctca gtgtgggcag ccctcgcatg ctggggtcgg
1020
gccagctctc cccgaaaggt cttgacctga atgatggccg gggaagcctg cgtgtgcccc
1080
tttcagagac ggagcacct
1099


<210> 5506
<211> 280
<212> PRT
<213> Homo sapiens
```

<400> 5506
Lys Leu Gly Arg Pro Ser Gly Ser Cys Arg Gly Gly Arg Ala Gln Leu
1   5   10   15
Gln Glu Gly Val Gln Lys Pro Gln Ala Met Ala Val Gly Asn Ile Asn
            20   25   30
Glu Leu Pro Glu Asn Ile Leu Leu Glu Leu Phe Thr His Val Pro Ala
            35   40   45
Arg Gln Leu Leu Leu Asn Cys Arg Leu Val Cys Ser Leu Trp Arg Asp
        50   55   60
Leu Ile Asp Leu Val Thr Leu Trp Lys Arg Lys Cys Leu Arg Glu Gly
65   70   75   80
Phe Ile Thr Glu Asp Trp Asp Gln Pro Val Ala Asp Trp Lys Ile Phe
                85   90   95
Tyr Phe Leu Arg Ser Leu His Arg Asn Leu Leu His Asn Pro Cys Ala
            100   105   110
Glu Glu Gly Phe Glu Phe Trp Ser Leu Asp Val Asn Gly Gly Asp Glu
            115   120   125
Trp Lys Val Glu Asp Leu Ser Arg Asp Gln Arg Lys Glu Phe Pro Asn
        130   135   140
Asp Gln Val Lys Lys Tyr Phe Val Thr Ser Tyr Tyr Thr Cys Leu Lys
145   150   155   160
Ser Gln Val Val Asp Leu Lys Ala Glu Gly Tyr Trp Glu Glu Leu Leu
                165   170   175
Asp Thr Phe Arg Pro Asp Ile Val Val Lys Asp Trp Phe Ala Ala Arg
            180   185   190
Ala Asp Cys Gly Cys Thr Tyr Gln Leu Lys Val Gln Leu Leu Ser Ala
            195   200   205
Asp Tyr Phe Val Leu Ala Ser Phe Glu Pro Asp Pro Ala Thr Ile Gln
        210   215   220
Gln Lys Ser Asp Ala Lys Trp Arg Glu Val Ser His Thr Phe Ser Asn
225   230   235   240
Tyr Pro Pro Gly Val Arg Tyr Ile Trp Phe Gln His Gly Gly Val Asp
                245   250   255
Thr His Tyr Trp Ala Gly Trp Tyr Gly Pro Arg Val Thr Asn Ser Ser
                260   265   270
Ile Thr Ile Gly Pro Pro Leu Pro
            275   280

<210> 5507
<211> 1658
<212> DNA
<213> Homo sapiens

<400> 5507
nttttagaaa gccaaggaat tgagttaaat ccaccagaga agatggctct tgatccttac
60
actgaactcc gaaacagcc tcttcgtaag tatgtcaccc catcagactt tgatcaactc
120
aagcaatttc tcacctttga caaacaggtc cttcgattct atgcaatctg ggatgataca
180
gacagcatgt atggtgaatg tcggacctac atcattcatt actatcttat ggatgatacg
240
gtggaaattc gagaggtcca cgaacggaat gatgggagag atcctttccc actcctaatg
300

```
aaccgccagc gtgtgcccaa agttttggtg gaaaatgcaa agaacttccc tcagtgtgtg
360
ctagaaatct ctgaccaaga agtgttggaa tggtatactg ctaaagactt cattgttggg
420
aagtcactca ctatccttgg gagaactttc ttcatttatg attgtgatcc atttactcga
480
cggtattaca aagagaagtt tggaatcact gatttaccac gtattgatgt gagcaagcgg
540
gaaccacctc cagtaaaaca ggagttgcct ccttataacg ttttggact agtggaagat
600
tctgctcaga attgttttgc tctcattcca aaagctccaa aaaagacgt tattaaaatg
660
ctggtgaatg ataacaaggt gcttcgttat ttggctgtac tggaatcccc catcccagaa
720
gacaaagacc gcagatttgt cttctcttac tttctagcta ccgacatgat cagtatcttt
780
gagcctcctg ttcgcaattc tggtatcatt gggggcaagt accttggcag gactaaagtt
840
gttaaaccat actctacagt ggacaaccct gtctactatg ccccagtga cttcttcatt
900
ggtgctgtga ttgaagtgtt tggtcaccgg ttcatcatcc ttgatacaga cgagtatgtt
960
ttgaaataca tggagagcaa cgctgcccag tattcaccag aagcactcgc gtcaattcag
1020
aaccatgtcc gaaagcgaga agcgcctgct ccagaagcag aaagcaagca aactgaaaag
1080
gatccaggcg tgcaggaatt ggaagcatta atagacacaa ttcagaagca actgaaagat
1140
cactcatgca aagacaacat tcgtgaggca tttcaaattt atgacaagga agcttcagga
1200
tatgtggaca gagacatgtt cttttaaaatc tgtgaatcgc ttaacgtccc agtggatgac
1260
tccttggtta aggagttaat caggatgtgc tctcatggag aaggcaaaat taactactat
1320
aactttgttc gtgctttctc aaactgacct gctgatgaga aaatgcaaga caatttttga
1380
tactggaact atgctttgaa atacacctta cactcttcat agaggcattt acagggttcc
1440
tgaagtttta tttctgtttt ggttcttatt tcactcctac tgaagtcgaa actaaattgg
1500
atctaatagg atctaagatt ggtgccttat ttagggtgat aggggtatag caatgtctaa
1560
ttttgtgtgt caaattgact tggccacagg gggcccaaat atttcctttc tttctttta
1620
aaaaaataaa ttttttttgga gatgggaaaa aaaaaaaa
1658
```

<210> 5508
<211> 448
<212> PRT
<213> Homo sapiens

<400> 5508
Xaa Leu Glu Ser Gln Gly Ile Glu Leu Asn Pro Pro Glu Lys Met Ala

```
      1                   5                   10                  15
      Leu Asp Pro Tyr Thr Glu Leu Arg Lys Gln Pro Leu Arg Lys Tyr Val
                      20                  25                  30
      Thr Pro Ser Asp Phe Asp Gln Leu Lys Gln Phe Leu Thr Phe Asp Lys
                      35                  40                  45
      Gln Val Leu Arg Phe Tyr Ala Ile Trp Asp Asp Thr Asp Ser Met Tyr
          50                  55                  60
      Gly Glu Cys Arg Thr Tyr Ile Ile His Tyr Tyr Leu Met Asp Asp Thr
      65                  70                  75                  80
      Val Glu Ile Arg Glu Val His Glu Arg Asn Asp Gly Arg Asp Pro Phe
                          85                  90                  95
      Pro Leu Leu Met Asn Arg Gln Arg Val Pro Lys Val Leu Val Glu Asn
                      100                 105                 110
      Ala Lys Asn Phe Pro Gln Cys Val Leu Glu Ile Ser Asp Gln Glu Val
                      115                 120                 125
      Leu Glu Trp Tyr Thr Ala Lys Asp Phe Ile Val Gly Lys Ser Leu Thr
              130                 135                 140
      Ile Leu Gly Arg Thr Phe Phe Ile Tyr Asp Cys Asp Pro Phe Thr Arg
      145                 150                 155                 160
      Arg Tyr Tyr Lys Glu Lys Phe Gly Ile Thr Asp Leu Pro Arg Ile Asp
                      165                 170                 175
      Val Ser Lys Arg Glu Pro Pro Pro Val Lys Gln Glu Leu Pro Pro Tyr
                      180                 185                 190
      Asn Gly Phe Gly Leu Val Glu Asp Ser Ala Gln Asn Cys Phe Ala Leu
                      195                 200                 205
      Ile Pro Lys Ala Pro Lys Lys Asp Val Ile Lys Met Leu Val Asn Asp
              210                 215                 220
      Asn Lys Val Leu Arg Tyr Leu Ala Val Leu Glu Ser Pro Ile Pro Glu
      225                 230                 235                 240
      Asp Lys Asp Arg Arg Phe Val Phe Ser Tyr Phe Leu Ala Thr Asp Met
                      245                 250                 255
      Ile Ser Ile Phe Glu Pro Pro Val Arg Asn Ser Gly Ile Ile Gly Gly
                      260                 265                 270
      Lys Tyr Leu Gly Arg Thr Lys Val Val Lys Pro Tyr Ser Thr Val Asp
              275                 280                 285
      Asn Pro Val Tyr Tyr Gly Pro Ser Asp Phe Phe Ile Gly Ala Val Ile
              290                 295                 300
      Glu Val Phe Gly His Arg Phe Ile Ile Leu Asp Thr Asp Glu Tyr Val
      305                 310                 315                 320
      Leu Lys Tyr Met Glu Ser Asn Ala Ala Gln Tyr Ser Pro Glu Ala Leu
                      325                 330                 335
      Ala Ser Ile Gln Asn His Val Arg Lys Arg Glu Ala Pro Ala Pro Glu
                      340                 345                 350
      Ala Glu Ser Lys Gln Thr Glu Lys Asp Pro Gly Val Gln Glu Leu Glu
              355                 360                 365
      Ala Leu Ile Asp Thr Ile Gln Lys Gln Leu Lys Asp His Ser Cys Lys
              370                 375                 380
      Asp Asn Ile Arg Glu Ala Phe Gln Ile Tyr Asp Lys Glu Ala Ser Gly
      385                 390                 395                 400
      Tyr Val Asp Arg Asp Met Phe Phe Lys Ile Cys Glu Ser Leu Asn Val
                      405                 410                 415
      Pro Val Asp Asp Ser Leu Val Lys Glu Leu Ile Arg Met Cys Ser His
                      420                 425                 430
      Gly Glu Gly Lys Ile Asn Tyr Tyr Asn Phe Val Arg Ala Phe Ser Asn
```

```
            435               440               445
```

<210> 5509
<211> 818
<212> DNA
<213> Homo sapiens

<400> 5509
ccactgtgtg aagagaaatt agggtgaccc aggcagtaca tcctactccc tggacccacc
60
aaggagagct gtatttgtgt ttcatggttg ctttaccaaa taattctagc atcggaattg
120
ctatgtgaga ggaagtaagt atacacagcg taagaggtgt gataaccaag tcatagaaga
180
aatgtttgga gaacatggaa tcatgtgaac ttattatgtg gtaagtacag atacccaggg
240
ctgtcagtct caccatcctt ttctacacat gtggatgctt caggactcca gcctttgagg
300
atgtggcttt caacttcacc ctacaggaaa ggtagtcaat gtggagaagc cttcagccag
360
attccaggtc ataatctgaa taagaaaacg cctcctggag taaagccacc tgaaagccat
420
gtgtgtggag aggtcggcgt gggctatcca tccactgaaa ggcacatcag agatcgcctt
480
ggacgcaaac cctgtgaata tcaggaatgt agacagaagg catatacatg taagccatgt
540
gggaatgcct ttcgttttca ccactccttt cacatacacg aaaggcctca cagtggagaa
600
aacctctatg aatgttagga atttcagaaa acattcactt cccccccaaa ccttcaaaga
660
tgtgaaaatg catagtggag atggacctta caaatgcaag gtgggtagga aaacctttga
720
ctctcccagt tcatttcgaa tacatggaag atctcattct ggagagaaac ccaatgtgtg
780
taggcactgt gggagcacct acaatcattt cagttttg
818
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<210> 5510
<211> 105
<212> PRT
<213> Homo sapiens

<400> 5510
```
Met Trp Leu Ser Thr Ser Pro Tyr Arg Lys Gly Ser Gln Cys Gly Glu
1               5               10              15
Ala Phe Ser Gln Ile Pro Gly His Asn Leu Asn Lys Lys Thr Pro Pro
            20              25              30
Gly Val Lys Pro Pro Glu Ser His Val Cys Gly Glu Val Gly Val Gly
            35              40              45
Tyr Pro Ser Thr Glu Arg His Ile Arg Asp Arg Leu Gly Arg Lys Pro
        50              55              60
Cys Glu Tyr Gln Glu Cys Arg Gln Lys Ala Tyr Thr Cys Lys Pro Cys
65              70              75              80
Gly Asn Ala Phe Arg Phe His His Ser Phe His Ile His Glu Arg Pro
```

                              85   · 90   95
His Ser Gly Glu Asn Leu Tyr Glu Cys
                      100   105

<210> 5511
<211> 379
<212> DNA
<213> Homo sapiens

<400> 5511
tccggagtgt cacaggcctc agccacaagg ctttcctgat tgggctccac atctgcagaa
60
ccttccttgg gaaagagggg catcgtctca atcgcatagt cacacacatc ccttaactca
120
ctctgctgag ttgctgagag tctgtgttcc tctctccact tataggatgg gtcctcatct
180
tcttgagctt caagccccaa ggcagagacc tggctgctcc tcatgggagc ctcagggata
240
atgctgaatt cctctatggc agagatggga ggagaggctc cacgctgggc ctcctcagcc
300
tccatcaggg ctgaatcctg gtcggtgtca catgctgctt cggccccagc gtcccctcca
360
ggtcccggcg ccggccgcn
379

<210> 5512
<211> 101
<212> PRT
<213> Homo sapiens

<400> 5512
Met Glu Ala Glu Glu Ala Gln Arg Gly Ala Ser Pro Pro Ile Ser Ala
1   5   10   15
Ile Glu Glu Phe Ser Ile Ile Pro Glu Ala Pro Met Arg Ser Ser Gln
                20   25   30
Val Ser Ala Leu Gly Leu Glu Ala Gln Glu Asp Glu Asp Pro Ser Tyr
        35   40   45
Lys Trp Arg Glu Glu His Arg Leu Ser Ala Thr Gln Gln Ser Glu Leu
    50   55   60
Arg Asp Val Cys Asp Tyr Ala Ile Glu Thr Met Pro Ser Phe Pro Lys
65   70   75   80
Glu Gly Ser Ala Asp Val Glu Pro Asn Gln Glu Ser Leu Val Ala Glu
                85   90   95
Ala Cys Asp Thr Pro
                100

<210> 5513
<211> 837
<212> DNA
<213> Homo sapiens

<400> 5513
nnaagcttga gttcctctgt ccaaggccag ggacctgtga ccatggaagc agagagaagc
60

```
aaggccacag ccgcggccct gggcagtttc ccggcaggtg gcccggccga gctgtcgctg
120
agactcgggg agccattgac catcgtctct gaggatggag actggtggac ggtgctgtct
180
gaagtctcag gcagagagta taacatcccc agcgtccacg tggccaaagt ctcccatggg
240
tggctgtatg agggcctgag cagggagaaa gcagaggacc tgctgttgtt acctgggaac
300
cctggagggg ccttcctcat ccgggagagc cagaccagga gaggctctta ctctctgtca
360
gtccgcctca gccgccctgc atcctgggac cggatcagac actacaggat ccactgcctt
420
gacaatggct ggctgtacat ctcaccgcgc ctcaccttcc cctcactcca ggccctggtg
480
gaccattact ctgagctggc ggatgacatc tgctgcctac tcaaggagcc ctgtgtcctg
540
cagagggctg gcccgctccc tggcaaggat ataccctac ctgtgactgt gcagaggaca
600
ccactcaact ggaaagagct ggacagctcc ctcctgtttt ctgaagctgc cacaggggag
660
gagtctcttc tcagtgaggg tctccgggag tccctcagct tctacatcag cctgaatgac
720
gaggctgtct ctttggatga tgcctaggcc caaaggagag gccaaaaggg aaaccaaggc
780
tgcacaccta gaaccccaat tcagcctcct gggcacccca gaggcaaggc tgtgcac
837
```

<210> 5514
<211> 248
<212> PRT
<213> Homo sapiens

<400> 5514
```
Xaa Ser Leu Ser Ser Ser Val Gln Gly Gln Gly Pro Val Thr Met Glu
 1               5                  10                  15
Ala Glu Arg Ser Lys Ala Thr Ala Ala Ala Leu Gly Ser Phe Pro Ala
            20                  25                  30
Gly Gly Pro Ala Glu Leu Ser Leu Arg Leu Gly Glu Pro Leu Thr Ile
        35                  40                  45
Val Ser Glu Asp Gly Asp Trp Trp Thr Val Leu Ser Glu Val Ser Gly
    50                  55                  60
Arg Glu Tyr Asn Ile Pro Ser Val His Val Ala Lys Val Ser His Gly
65                  70                  75                  80
Trp Leu Tyr Glu Gly Leu Ser Arg Glu Lys Ala Glu Asp Leu Leu Leu
                85                  90                  95
Leu Pro Gly Asn Pro Gly Gly Ala Phe Leu Ile Arg Glu Ser Gln Thr
               100                 105                 110
Arg Arg Gly Ser Tyr Ser Leu Ser Val Arg Leu Ser Arg Pro Ala Ser
           115                 120                 125
Trp Asp Arg Ile Arg His Tyr Arg Ile His Cys Leu Asp Asn Gly Trp
       130                 135                 140
Leu Tyr Ile Ser Pro Arg Leu Thr Phe Pro Ser Leu Gln Ala Leu Val
145                 150                 155                 160
Asp His Tyr Ser Glu Leu Ala Asp Asp Ile Cys Cys Leu Leu Lys Glu
```

```
                    165                 170                 175
Pro Cys Val Leu Gln Arg Ala Gly Pro Leu Pro Gly Lys Asp Ile Pro
                180                 185                 190
Leu Pro Val Thr Val Gln Arg Thr Pro Leu Asn Trp Lys Glu Leu Asp
            195                 200                 205
Ser Ser Leu Leu Phe Ser Glu Ala Ala Thr Gly Glu Glu Ser Leu Leu
        210                 215                 220
Ser Glu Gly Leu Arg Glu Ser Leu Ser Phe Tyr Ile Ser Leu Asn Asp
225                 230                 235                 240
Glu Ala Val Ser Leu Asp Asp Ala
                245
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```
<210> 5515
<211> 420
<212> DNA
<213> Homo sapiens


<400> 5515
gtttgtacca acccctctc catccttgaa gcagtcatgg cccactgcaa gaaaatgcaa
60
gaaaggatgt ccgcacagct ggctgctgct gagagcagac aaaagaagct ggaaatggag
120
aagcttcagc tacaagccct tgagcaagag cacaagaagc tggctgcccg ccttgaggaa
180
gagcgtggca agaacaagca ggtggtcctg atgctggtca agagtgcaa gcagctctca
240
agcaaagtca tagaggaggc ccagaagctc gaagacgtaa tggccaaact ggcttcttct
300
ctttgtcacc agcacctgct tcatagtctc tctggagtgc caggaacggg tcatatagat
360
taaatctccc ataccgttcc tggataaata cctccttcct gcgagcccgc agggcctcga
420


<210> 5516
<211> 120
<212> PRT
<213> Homo sapiens


<400> 5516
Val Cys Thr Asn Pro Leu Ser Ile Leu Glu Ala Val Met Ala His Cys
1               5                   10                  15
Lys Lys Met Gln Glu Arg Met Ser Ala Gln Leu Ala Ala Ala Glu Ser
                20                  25                  30
Arg Gln Lys Lys Leu Glu Met Glu Lys Leu Gln Leu Gln Ala Leu Glu
            35                  40                  45
Gln Glu His Lys Lys Leu Ala Ala Arg Leu Glu Glu Glu Arg Gly Lys
        50                  55                  60
Asn Lys Gln Val Val Leu Met Leu Val Lys Glu Cys Lys Gln Leu Ser
65                  70                  75                  80
Ser Lys Val Ile Glu Glu Ala Gln Lys Leu Glu Asp Val Met Ala Lys
                85                  90                  95
Leu Ala Ser Ser Leu Cys His Gln His Leu Leu His Ser Leu Ser Gly
            100                 105                 110
Val Pro Gly Thr Gly His Ile Asp
```

4692

115   120

<210> 5517
<211> 804
<212> DNA
<213> Homo sapiens

<400> 5517
nctgtatggc caaagcacaa agggaaggat ccgcaattta cattcttgga gctatcatct
60
gtactgtact gttgtgatct actgattggc attggcatag tagtagggtc aagtgacaga
120
atccgtgcca gcagtctcca ggttcagaag caattcaaga ccctgatgat agctctccag
180
caaccaacac atggtgacat ggtgattgtg ccaacttgtt gctcagttat atgcagggcc
240
agtgattggt ttaagtgaag accatggttg agatcatttg tctttggtct aatagaattt
300
gagctagtag aatttgagtc tccagggaaa gagctacttg accaaattaa actagtagca
360
ggtagagcat gaatgacagc atattatacc atcaagatgt tcttagagca gtgtatggat
420
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<212> PRT
<213> Homo sapiens

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Glu Leu Ser Ser Val Leu Tyr Cys Cys Asp Leu Leu Ile Gly Ile Gly
            20   25   30
Ile Val Val Gly Ser Ser Asp Arg Ile Arg Ala Ser Ser Leu Gln Val
        35   40   45
Gln Lys Gln Phe Lys Thr Leu Met Ile Ala Leu Gln Gln Pro Thr His
        50   55   60
Gly Asp Met Val Ile Val Pro Thr Cys Cys Ser Val Ile Cys Arg Ala
65   70   75   80
Ser Asp Trp Phe Lys

4693

85

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<212> DNA
<213> Homo sapiens

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401

<210> 5520
<211> 101
<212> PRT
<213> Homo sapiens

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Trp His Ser Lys Phe Leu Met Val Arg Ser Arg Gly Glu Cys Gly Ala
            20   25   30
Gln Arg Gln Leu Leu Cys Val Phe Val Phe Arg Asp Ser Leu Arg Glu
        35   40   45
Gly Asn Ala Arg Arg Asn Met Val Ser Ser Glu Ala His Gly Cys Phe
    50   55   60
Leu Arg Pro Ala Val Phe Tyr Ala Thr Tyr Pro Cys Thr Ser Tyr Ala
65   70   75   80
Lys Glu Thr Lys Pro Ser Ala Cys Leu Phe Pro Leu Leu Ile Ile Gly
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Lys Trp Met Leu Trp
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<210> 5521
<211> 2524
<212> DNA
<213> Homo sapiens

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120

4694

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1740
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4695

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1860
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1920
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1980
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2160
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2280
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2340
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2524


<210> 5522
<211> 441
<212> PRT
<213> Homo sapiens

<400> 5522
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Ser Ser Lys Asn Val Arg Val Asn Cys Leu Asp Glu Asn Gly Met Thr
            35                  40                  45
Pro Leu Met His Ala Ala Tyr Lys Gly Lys Leu Asp Met Cys Lys Leu
        50                  55                  60
Leu Leu Arg His Gly Ala Asp Val Asn Cys His Gln His Glu His Gly
65                  70                  75                  80
Tyr Thr Ala Leu Met Phe Ala Ala Leu Ser Gly Asn Lys Asp Ile Thr
                85                  90                  95
Trp Val Met Leu Glu Ala Gly Ala Glu Thr Asp Val Val Asn Ser Val
                100                 105                 110
Gly Arg Thr Ala Ala Gln Met Ala Ala Phe Val Gly Gln His Asp Cys
            115                 120                 125
Val Thr Ile Ile Asn Asn Phe Phe Pro Arg Glu Arg Leu Asp Tyr Tyr
        130                 135                 140
Thr Lys Pro Gln Gly Leu Asp Lys Glu Pro Lys Leu Pro Pro Lys Leu
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4696

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145                   150                   155                   160
Ala Gly Pro Leu His Lys Ile Ile Thr Thr Thr Asn Leu His Pro Val
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Lys Ile Val Met Leu Val Asn Glu Asn Pro Leu Leu Thr Glu Glu Ala
                180                   185                   190
Ala Leu Asn Lys Cys Tyr Arg Val Met Asp Leu Ile Cys Glu Lys Cys
                195                   200                   205
Met Lys Gln Arg Asp Met Asn Glu Val Leu Ala Met Lys Met His Tyr
        210                   215                   220
Ile Ser Cys Ile Phe Gln Lys Cys Ile Asn Phe Leu Lys Asp Gly Glu
225                   230                   235                   240
Asn Lys Leu Asp Thr Leu Ile Lys Ser Leu Leu Lys Gly Arg Ala Ser
                245                   250                   255
Asp Gly Phe Pro Val Tyr Gln Glu Lys Ile Ile Arg Glu Ser Ile Arg
                260                   265                   270
Lys Phe Pro Tyr Cys Glu Ala Thr Leu Leu Gln Gln Leu Val Arg Ser
                275                   280                   285
Ile Ala Pro Val Glu Ile Gly Ser Asp Pro Thr Ala Phe Ser Val Leu
        290                   295                   300
Thr Gln Ala Ile Thr Gly Gln Val Gly Phe Val Asp Val Glu Phe Cys
305                   310                   315                   320
Thr Thr Cys Gly Glu Lys Gly Ala Ser Lys Arg Cys Ser Val Cys Lys
                325                   330                   335
Met Val Ile Tyr Cys Asp Gln Thr Cys Gln Lys Thr His Trp Phe Thr
                340                   345                   350
His Lys Lys Ile Cys Lys Asn Leu Lys Asp Ile Tyr Glu Lys Gln Gln
                355                   360                   365
Leu Glu Ala Ala Lys Glu Lys Arg Gln Glu Glu Asn His Gly Lys Leu
        370                   375                   380
Asp Val Asn Ser Asn Cys Val Asn Glu Glu Gln Pro Glu Ala Glu Val
385                   390                   395                   400
Gly Ile Ser Gln Arg Asp Ser Asn Pro Glu Asp Ser Gly Glu Gly Lys
                405                   410                   415
Lys Glu Ser Leu Glu Ser Glu Ala Glu Leu Glu Gly Leu Gln Asp Ala
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Pro Ala Gly Pro Gln Val Ser Glu Glu
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<210> 5523
<211> 6190
<212> DNA
<213> Homo sapiens

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120
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300
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1920
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4698

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<211> 1193
<212> PRT
<213> Homo sapiens
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            20                  25                  30
Leu Gln Arg Lys Leu Ala Asp Ser Ser His Ser Glu Gln Gln Asp Arg
        35                  40                  45
Asn Arg Val Ser Glu Glu Leu Ile Met Val Gln Glu Met Lys Lys
    50                  55                  60
Tyr Phe Pro Ser Glu Arg Arg Asn Lys Pro Ser Thr Leu Asp Ala Leu
65                  70                  75                  80
Asn Tyr Ala Leu Arg Cys Val His Ser Val Gln Ala Asn Ser Glu Phe
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Tyr Ser Leu Glu Glu Leu Ala Thr Ile Ala Ser Glu His Thr Ser Lys
                   115                  120                  125
Asn Thr Asp Thr Phe Val Ala Val Phe Ser Phe Leu Ser Gly Arg Leu
                   130                  135                  140
Val His Ile Ser Glu Gln Ala Ala Leu Ile Leu Asn Arg Lys Lys Asp
145                  150                  155                  160
Val Leu Ala Ser Ser His Phe Val Asp Leu Leu Ala Pro Gln Asp Met
                   165                  170                  175
Arg Val Phe Tyr Ala His Thr Ala Arg Ala Gln Leu Pro Phe Trp Asn
                   180                  185                  190
Asn Trp Thr Gln Arg Ala Ala Arg Tyr Glu Cys Ala Pro Val Lys Pro
                   195                  200                  205
Phe Phe Cys Arg Ile Arg Gly Gly Glu Asp Arg Lys Gln Glu Lys Cys
                   210                  215                  220
His Ser Pro Phe Arg Ile Ile Pro Tyr Leu Ile His Val His His Pro
225                  230                  235                  240
Ala Gln Pro Glu Leu Glu Ser Glu Pro Cys Cys Leu Thr Val Val Glu
                   245                  250                  255
Lys Ile His Ser Gly Tyr Glu Ala Pro Arg Ile Pro Val Asn Lys Arg
                   260                  265                  270
Ile Phe Thr Thr Thr His Thr Pro Gly Cys Val Phe Leu Glu Val Asp
                   275                  280                  285
Glu Lys Ala Val Pro Leu Leu Gly Tyr Leu Pro Gln Asp Leu Ile Gly
                   290                  295                  300
Thr Ser Ile Leu Ser Tyr Leu His Pro Glu Asp Arg Ser Leu Met Val
305                  310                  315                  320
Ala Ile His Gln Lys Gly His Pro Pro Phe Glu His Ser Pro Ile Arg
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Phe Cys Thr Gln Asn Gly Asp Tyr Ile Ile Leu Asp Ser Ser Trp Ser
                   340                  345                  350
Ser Phe Val Asn Pro Trp Ser Arg Lys Ile Ser Phe Ile Ile Gly Arg
                   355                  360                  365
His Lys Val Arg Thr Ser Pro Leu Asn Glu Asp Val Phe Ala Thr Lys
                   370                  375                  380
Ile Lys Lys Met Asn Asp Asn Asp Lys Asp Ile Thr Glu Leu Gln Glu
385                  390                  395                  400
Gln Ile Tyr Lys Leu Leu Leu Gln Pro Val His Val Ser Val Ser Ser
                   405                  410                  415
Gly Tyr Gly Ser Leu Gly Ser Ser Gly Ser Gln Glu Gln Leu Val Ser
                   420                  425                  430
Ile Ala Ser Ser Ser Glu Ala Ser Gly His Arg Val Glu Glu Thr Lys
                   435                  440                  445
Ala Glu Gln Met Thr Leu Gln Gln Val Tyr Ala Ser Val Asn Lys Ile
                   450                  455                  460
Lys Asn Leu Gly Gln Gln Leu Tyr Ile Glu Ser Met Thr Lys Ser Ser
465                  470                  475                  480
Phe Lys Pro Val Thr Gly Thr Arg Thr Glu Pro Asn Gly Gly Gly Glu
                   485                  490                  495
Cys Lys Thr Phe Thr Ser Phe His Gln Thr Leu Lys Asn Asn Ser Val
                   500                  505                  510
```

```
Tyr Thr Glu Pro Cys Glu Asp Leu Arg Asn Asp Glu His Ser Pro Ser
515                 520                 525
Tyr Gln Gln Ile Asn Cys Ile Asp Ser Val Ile Arg Tyr Leu Lys Ser
    530                 535                 540
Tyr Asn Ile Pro Ala Leu Lys Arg Lys Cys Ile Ser Cys Thr Asn Thr
545                 550                 555                 560
Thr Ser Ser Ser Ser Glu Glu Asp Lys Gln Asn His Lys Ala Asp Asp
                565                 570                 575
Val Gln Ala Leu Gln Gly Asn Lys Asn Ala Pro Gln Lys Met Pro Thr
                580                 585                 590
Asn Gly Arg Ser Ile Asp Thr Gly Gly Gly Ala Pro Gln Ile Leu Ser
                595                 600                 605
Thr Ala Met Leu Ser Leu Gly Ser Gly Ile Ser Gln Cys Gly Tyr Ser
    610                 615                 620
Ser Thr Ile Val His Val Pro Pro Pro Glu Thr Ala Arg Asp Ala Thr
625                 630                 635                 640
Leu Phe Cys Glu Pro Trp Thr Leu Asn Met Gln Pro Ala Pro Leu Thr
                645                 650                 655
Ser Glu Glu Phe Lys His Val Gly Leu Thr Ala Ala Val Leu Ser Ala
                660                 665                 670
His Thr Gln Lys Glu Glu Gln Asn Tyr Val Asp Lys Phe Arg Glu Lys
    675                 680                 685
Ile Leu Ser Ser Pro Tyr Ser Ser Tyr Leu Gln Gln Glu Ser Arg Ser
    690                 695                 700
Lys Ala Lys Tyr Ser Tyr Phe Gln Gly Asp Ser Thr Ser Lys Gln Thr
705                 710                 715                 720
Arg Ser Ala Gly Cys Arg Lys Gly Lys His Lys Arg Lys Lys Leu Pro
                725                 730                 735
Glu Pro Pro Asp Ser Ser Ser Ser Asn Thr Gly Ser Gly Pro Arg Arg
                740                 745                 750
Gly Ala His Gln Asn Ala Gln Pro Cys Cys Pro Ser Ala Ala Ser Ser
    755                 760                 765
Pro His Thr Ser Ser Pro Thr Phe Pro Pro Ala Ala Met Val Pro Ser
    770                 775                 780
Gln Ala Pro Tyr Leu Val Pro Ala Phe Pro Leu Pro Ala Ala Thr Ser
785                 790                 795                 800
Pro Gly Arg Glu Tyr Ala Ala Pro Gly Thr Ala Pro Glu Gly Leu His
                805                 810                 815
Gly Pro Pro Leu Ser Glu Gly Leu Gln Pro Tyr Pro Ala Phe Pro Phe
                820                 825                 830
Pro Tyr Leu Asp Thr Phe Met Thr Val Phe Leu Pro Asp Pro Pro Val
    835                 840                 845
Cys Pro Leu Leu Ser Pro Ser Phe Leu Pro Cys Pro Phe Leu Gly Ala
    850                 855                 860
Thr Ala Ser Ser Ala Ile Ser Pro Ser Met Ser Ser Ala Met Ser Pro
865                 870                 875                 880
Thr Leu Asp Pro Pro Pro Ser Val Thr Ser Gln Arg Arg Glu Glu Glu
                885                 890                 895
Lys Trp Glu Ala Gln Ser Glu Gly His Pro Phe Ile Thr Ser Arg Ser
                900                 905                 910
Ser Ser Pro Leu Gln Leu Asn Leu Leu Gln Glu Glu Met Pro Arg Pro
    915                 920                 925
Ser Glu Ser Pro Asp Gln Met Arg Arg Asn Thr Cys Pro Gln Thr Glu
    930                 935                 940
```

                                    4703

```
Tyr Gln Cys Val Thr Gly Asn Asn Gly Ser Glu Ser Ser Pro Ala Thr
945                 950             955             960
Thr Gly Ala Leu Ser Thr Gly Ser Pro Pro Arg Glu Asn Pro Ser His
                965             970             975
Pro Thr Ala Ser Ala Leu Ser Thr Gly Ser Pro Pro Met Lys Asn Pro
        980             985             990
Ser His Pro Thr Ala Ser Ala Leu Ser Thr Gly Ser Pro Pro Met Lys
        995             1000            1005
Asn Pro Ser His Pro Thr Ala Ser Thr Leu Ser Met Gly Leu Pro Pro
    1010            1015            1020
Ser Arg Thr Pro Ser His Pro Thr Ala Thr Val Leu Ser Thr Gly Ser
1025            1030            1035            1040
Pro Pro Ser Glu Ser Pro Ser Arg Thr Gly Ser Ala Ala Ser Gly Ser
            1045            1050            1055
Ser Asp Ser Ser Ile Tyr Leu Thr Ser Ser Val Tyr Ser Ser Lys Ile
            1060            1065            1070
Ser Gln Asn Gly Gln Gln Ser Gln Asp Val Gln Lys Lys Glu Thr Phe
            1075            1080            1085
Pro Asn Val Ala Glu Glu Pro Ile Trp Arg Met Ile Arg Gln Thr Pro
    1090            1095            1100
Glu Arg Ile Leu Met Thr Tyr Gln Val Pro Glu Arg Val Lys Glu Val
1105            1110            1115            1120
Val Leu Lys Glu Asp Leu Glu Lys Leu Glu Ser Met Arg Gln Gln Gln
            1125            1130            1135
Pro Gln Phe Ser His Gly Gln Lys Glu Glu Leu Ala Lys Val Tyr Asn
            1140            1145            1150
Trp Ile Gln Ser Gln Thr Val Thr Gln Glu Ile Asp Ile Gln Ala Cys
        1155            1160            1165
Val Thr Cys Glu Asn Glu Asp Ser Ala Asp Gly Ala Ala Thr Ser Cys
    1170            1175            1180
Gly Gln Val Leu Val Glu Asp Ser Cys
1185            1190
```

<210> 5525
<211> 761
<212> DNA
<213> Homo sapiens

<400> 5525
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ctgagatgga ctttatctgc ctacctgcct ctgcttgctc agtgggaaca tgaggagaga
120
gtgggcatca gtggttctgg ggcagggtct ctcttctgag atggggatta aggaagaggg
180
tgagcagggg tggatgttta gggggatgcc taaattcccc agtaaggaga ccgcagataa
240
actcaactct gtccatctta gcagggctat gtgacctttg aggatgtggc tgtctacttc
300
tcccaggagg aatggagatt gcttgatgac gctcagaggc tcctctaccg caatgtgatg
360
ctggagaact ttacacttct ggcctctctg ggacttgcgt cttccaagac ccatgaaata
420

4704

acccagctgg agtcatggga ggagcccttc atgcctgctt gggaagttgt gacttcagcc
480
ataccgagag aaactctgag gatggccttt atgagggagc tggcaattga acatcattca
540
tctaaatatg cacactggag gcaagatgag aattcctgac agattgtcct tcctgagaag
600
acagccctct gccttggagc tccagagaga gggagccctg tattcttggc tgtacccgtc
660
gaatggagtt ttgatctcgc tgagtttgga gttgggggag aaaggagtg gtcttggttc
720
aaatgtgact cactttttgct gttcttgtga atgttagatc t
761

<210> 5526
<211> 102
<212> PRT
<213> Homo sapiens

<400> 5526
Val Thr Phe Glu Asp Val Ala Val Tyr Phe Ser Gln Glu Glu Trp Arg
1   5   10   15
Leu Leu Asp Asp Ala Gln Arg Leu Leu Tyr Arg Asn Val Met Leu Glu
            20   25   30
Asn Phe Thr Leu Leu Ala Ser Leu Gly Leu Ala Ser Ser Lys Thr His
        35   40   45
Glu Ile Thr Gln Leu Glu Ser Trp Glu Glu Pro Phe Met Pro Ala Trp
    50   55   60
Glu Val Val Thr Ser Ala Ile Pro Arg Glu Thr Leu Arg Met Ala Phe
65   70   75   80
Met Arg Glu Leu Ala Ile Glu His His Ser Ser Lys Tyr Ala His Trp
                85   90   95
Arg Gln Asp Glu Asn Ser
            100

<210> 5527
<211> 728
<212> DNA
<213> Homo sapiens

<400> 5527
nnagatctga cactaaaggg catgagaacc actggatatc tgtatattcc ggctttggca
60
gcgttgcact ctcccagttc tctactctcc cctcaggtca ccggattgaa actgtctcag
120
gaccttgatg atcttgccat tctctacctg gccacagttc aagccattgc tttggggact
180
cgcttcatta tagaagccat ggaggcagca gggcactcaa tcagtactct tttcctatgt
240
ggaggcctca gcaagaatcc cctttttgtg caaatgcatg cggacattac tggcatgcct
300
gtggtcctgt cgcaagaggt ggagtccgtt cttgtgggtg ctgctgttct gggtgcctgt
360
gcctcagggg atttcgcttc tgtacaggaa gcaatggcaa aaatgagcaa agttgggaaa
420

```
gttgtgttcc cgagactaca ggataaaaaa tactatgata agaaatacca agtattcctg
480
aagctggttg aacaccagaa ggagtatttg gcgatcatga atgatgactg aacagggctt
540
gcaggtgctg atgccagaag cttatgtgcc attgcattaa agacttctgt catttgatcc
600
atgttcaaga cccttgaggt attgtttcat catttctgta ttgtctttca ataaagaaaa
660
caaacatgtg caaccagaaa aaaaaaaaaa aaaataaaaa aaaaaaaaaa aaaaaaaaaa
720
aaaaaaaa
728
```

```
<210> 5528
<211> 176
<212> PRT
<213> Homo sapiens
```

```
<400> 5528
Xaa Asp Leu Thr Leu Lys Gly Met Arg Thr Thr Gly Tyr Leu Tyr Ile
1               5                   10                  15
Pro Ala Leu Ala Ala Leu His Ser Pro Ser Ser Leu Leu Ser Pro Gln
                20                  25                  30
Val Thr Gly Leu Lys Leu Ser Gln Asp Leu Asp Asp Leu Ala Ile Leu
            35                  40                  45
Tyr Leu Ala Thr Val Gln Ala Ile Ala Leu Gly Thr Arg Phe Ile Ile
        50                  55                  60
Glu Ala Met Glu Ala Ala Gly His Ser Ile Ser Thr Leu Phe Leu Cys
65                  70                  75                  80
Gly Gly Leu Ser Lys Asn Pro Leu Phe Val Gln Met His Ala Asp Ile
                85                  90                  95
Thr Gly Met Pro Val Val Leu Ser Gln Glu Val Glu Ser Val Leu Val
            100                 105                 110
Gly Ala Ala Val Leu Gly Ala Cys Ala Ser Gly Asp Phe Ala Ser Val
        115                 120                 125
Gln Glu Ala Met Ala Lys Met Ser Lys Val Gly Lys Val Val Phe Pro
    130                 135                 140
Arg Leu Gln Asp Lys Lys Tyr Tyr Asp Lys Lys Tyr Gln Val Phe Leu
145                 150                 155                 160
Lys Leu Val Glu His Gln Lys Glu Tyr Leu Ala Ile Met Asn Asp Asp
                165                 170                 175
```

```
<210> 5529
<211> 2602
<212> DNA
<213> Homo sapiens
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<400> 5529
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gcaatggcgg ttcccggcgt ggggctcttg acccgtttga acctgtgtgc ccggagaaga
120
actcgagtcc agcggcctat cgtcaggctt ttgagttgcc caggaactgt ggccaaagac
180
```

4706

```
cttaggagag acgagcagcc ttcagggagc gtggagacag gttttgaaga caagattccc
240
aaaaggagat tctctgagat gcaaaatgaa agacgagaac aggcacagcg gactgtttta
300
atacattgcc cagagaaaat cagtgaaaac aagtttctta aatatttatc ccaatttgga
360
cctattaata atcatttctt ctatgaaagc tttggtctct atgctgtcgt agaattttgc
420
caaaaggaaa gcataggttc actgcagaat gggactcata ctccaagcac ggccatggag
480
actgcaattc cattcagatc acgtttcttc aatctgaagt tgaaaaacca gacttctgaa
540
cggtcacgcg tacggtcaag taatcagttg ccacgttcaa acaagcagct ttttgaatta
600
ctttgttatg cagaaagtat agacgatcag ctgaacactc tcttgaagga gttccagcta
660
acagaggaga acactaagct ccgatatctc acctgttctc ttattgaaga catggccgcc
720
gcgtattttc cagactgcat agtcagaccc tttggctcct cagtcaacac ttttgggaag
780
ttaggatgtg atttggacat gttttttggat ctagatgaaa ccagaaacct cagcgctcac
840
aagatctcag gaaattttct gatggaattt caagtgaaaa atgttccttc agaaagaatt
900
gcaactcaga agatcctgtc tgtgttagga gagtgccttg accactttgg ccctggctgt
960
gtgggtgtgc aaaaaatatt aaatgcccgg tgtccgctcg tgaggttctc acaccaggcc
1020
tccggatttc agtgtgattt gactacgaac aataggattg ccttgacaag ttccgaactc
1080
ctttatatat atggtgccct agactcaaga gtgagagcct tggtgttcag tgtacggtgc
1140
tgggctcgag cacattcact aacaagtagt attcctggtg catggattac aaatttctcc
1200
cttacaatga tggtcatctt ttttctccag agaagatcac cccctattct tccaacacta
1260
gattccttaa aaaccctagc agatgcagaa gataaatgtg taatagaagg caacaactgc
1320
acatttgttc gtgacttgag tagaattaaa ccttcacaga acacagaaac attagaatta
1380
ctactgaagg aattttttga gtattttggc aattttgctt cgataaaaa ttccataaat
1440
attcgacagg gaagggagca aaacaaacct gattcttctc ctctgtacat tcagaatcca
1500
tttgaaactt ctctcaacat aagcaaaaat gtaagtcaaa gccagctgca aaaatttgta
1560
gatttggccc gagaaagtgc ctggatttta caacaggaag atacagatcg accttccata
1620
tcaagtaatc ggccctgggg gctggtatcc ctattgctac catctgctcc aaacagaaag
1680
tcctttacca agaagaaaag caataagttt gcaattgaaa cagtcaaaaa cttgctagaa
1740
tctttaaaag gtaacagaac agaaaatttc acaaaaacca gtgggaagag aacaattagt
1800
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actcagacat gatggctgct acattgtgta aagaactggg cttagcctat caaatggtct
1860
gtggacttac ttggaaaaac tgatttgaaa cttttcacaga tctcagcttt catctgatgt
1920
cactttttcat gatcttctca ttggcccccct taacctggtc tgaagttctg ggatgtttttc
1980
agtttgatca gtctgatact cagtggcact ttattaaaac atcagctgtg gagtgtggcg
2040
gtgcacacct gtagtcccag ctgctcagga ggctgaggca ggaggatctc ttgagcccag
2100
gattttgaat ccatcgtgga caacatagca agattccatc tctaaaaaaa atgaaaataa
2160
acataagcca caaggaatgg gtgaaagatt attgtaatgt gctttaacta aataggtaaa
2220
tatactaaac aaatgctaaa actcagtttt aggatgaaac cattgttgat atccacatca
2280
gtccctgttt agaaaacatt taaaatgact tttagttatg tacagtacgt tggcaatgaa
2340
tacattaagc ttcaaaattt ggtagtgctc tcgaatatgt atatttgtat ttttcaagcg
2400
aagttctctt attcacatat aaattaaagt gggttggtac tgatatcaaa aaatgtttat
2460
gttttttagaa cagacatttc agtcactgca ttcttaggta ttccaaacca aatatgatga
2520
catcaataga ttgcatttta aaaatattgt ttgatttttc tattttcaaa aataaaattc
2580
tgtttctaac taaaaaaaaa aa
2602

<210> 5530
<211> 603
<212> PRT
<213> Homo sapiens

<400> 5530
Xaa Ala His Leu Leu Trp Gly Gly Lys Gly His Lys Val Phe Phe Phe
1   5   10   15
Phe Phe Phe Leu Ala Met Ala Val Pro Gly Val Gly Leu Leu Thr Arg
            20   25   30
Leu Asn Leu Cys Ala Arg Arg Arg Thr Arg Val Gln Arg Pro Ile Val
        35   40   45
Arg Leu Leu Ser Cys Pro Gly Thr Val Ala Lys Asp Leu Arg Arg Asp
    50   55   60
Glu Gln Pro Ser Gly Ser Val Glu Thr Gly Phe Glu Asp Lys Ile Pro
65   70   75   80
Lys Arg Arg Phe Ser Glu Met Gln Asn Glu Arg Arg Glu Gln Ala Gln
                85   90   95
Arg Thr Val Leu Ile His Cys Pro Glu Lys Ile Ser Glu Asn Lys Phe
            100   105   110
Leu Lys Tyr Leu Ser Gln Phe Gly Pro Ile Asn Asn His Phe Phe Tyr
        115   120   125
Glu Ser Phe Gly Leu Tyr Ala Val Val Glu Phe Cys Gln Lys Glu Ser
    130   135   140
Ile Gly Ser Leu Gln Asn Gly Thr His Thr Pro Ser Thr Ala Met Glu

```
         145                150                155                160
Thr Ala Ile Pro Phe Arg Ser Arg Phe Phe Asn Leu Lys Leu Lys Asn
                165                170                175
Gln Thr Ser Glu Arg Ser Arg Val Arg Ser Ser Asn Gln Leu Pro Arg
                180                185                190
Ser Asn Lys Gln Leu Phe Glu Leu Leu Cys Tyr Ala Glu Ser Ile Asp
                195                200                205
Asp Gln Leu Asn Thr Leu Leu Lys Glu Phe Gln Leu Thr Glu Glu Asn
    210                215                220
Thr Lys Leu Arg Tyr Leu Thr Cys Ser Leu Ile Glu Asp Met Ala Ala
225                230                235                240
Ala Tyr Phe Pro Asp Cys Ile Val Arg Pro Phe Gly Ser Ser Val Asn
                245                250                255
Thr Phe Gly Lys Leu Gly Cys Asp Leu Asp Met Phe Leu Asp Leu Asp
                260                265                270
Glu Thr Arg Asn Leu Ser Ala His Lys Ile Ser Gly Asn Phe Leu Met
                275                280                285
Glu Phe Gln Val Lys Asn Val Pro Ser Glu Arg Ile Ala Thr Gln Lys
                290                295                300
Ile Leu Ser Val Leu Gly Glu Cys Leu Asp His Phe Gly Pro Gly Cys
305                310                315                320
Val Gly Val Gln Lys Ile Leu Asn Ala Arg Cys Pro Leu Val Arg Phe
                325                330                335
Ser His Gln Ala Ser Gly Phe Gln Cys Asp Leu Thr Thr Asn Asn Arg
                340                345                350
Ile Ala Leu Thr Ser Ser Glu Leu Leu Tyr Ile Tyr Gly Ala Leu Asp
                355                360                365
Ser Arg Val Arg Ala Leu Val Phe Ser Val Arg Cys Trp Ala Arg Ala
                370                375                380
His Ser Leu Thr Ser Ser Ile Pro Gly Ala Trp Ile Thr Asn Phe Ser
385                390                395                400
Leu Thr Met Met Val Ile Phe Phe Leu Gln Arg Arg Ser Pro Pro Ile
                405                410                415
Leu Pro Thr Leu Asp Ser Leu Lys Thr Leu Ala Asp Ala Glu Asp Lys
                420                425                430
Cys Val Ile Glu Gly Asn Asn Cys Thr Phe Val Arg Asp Leu Ser Arg
                435                440                445
Ile Lys Pro Ser Gln Asn Thr Glu Thr Leu Glu Leu Leu Leu Lys Glu
    450                455                460
Phe Phe Glu Tyr Phe Gly Asn Phe Ala Phe Asp Lys Asn Ser Ile Asn
465                470                475                480
Ile Arg Gln Gly Arg Glu Gln Asn Lys Pro Asp Ser Ser Pro Leu Tyr
                485                490                495
Ile Gln Asn Pro Phe Glu Thr Ser Leu Asn Ile Ser Lys Asn Val Ser
                500                505                510
Gln Ser Gln Leu Gln Lys Phe Val Asp Leu Ala Arg Glu Ser Ala Trp
                515                520                525
Ile Leu Gln Gln Glu Asp Thr Asp Arg Pro Ser Ile Ser Ser Asn Arg
                530                535                540
Pro Trp Gly Leu Val Ser Leu Leu Leu Pro Ser Ala Pro Asn Arg Lys
545                550                555                560
Ser Phe Thr Lys Lys Lys Ser Asn Lys Phe Ala Ile Glu Thr Val Lys
                565                570                575
Asn Leu Leu Glu Ser Leu Lys Gly Asn Arg Thr Glu Asn Phe Thr Lys
```

4709

```
                 580              585                590
      Thr Ser Gly Lys Arg Thr Ile Ser Thr Gln Thr
               595              600


      <210> 5531
      <211> 3056
      <212> DNA
      <213> Homo sapiens

      <400> 5531
      gccccgtccg cgtgacgctc ctgcctgcgc gcggccaagc catgctccgc cccagctcag
      60
      gtaacggagg ccttggaaag agactctgcg tcaggtcacc cagcagagat cagcaatcct
      120
      tggctcactg aggaggtttg gatttgcctc aaagggcact gcaaaaattg aacagaggaa
      180
      tcccaaggaa gctgcctgaa tttgcctgta tactctcgtt ctgcgactta taaaggacca
      240
      gacaaatcaa attagtggtt ttggtttccg ccagctgtgg atgcctttga cattatgacc
      300
      gcagaggatt ccaccgcagc catgagcagt gactcggccg ccgggtcctc ggccaaggtg
      360
      cccgagggcg tggcgggcgc gcccaacgag gcagcactgc tggcgctgat ggagcgcacg
      420
      ggctacagca tggtgcaaga gaacgggcag cgcaagtacg gcggcccacc gcccggctgg
      480
      gagggcccgc acccgcagcg tggctgcgag gtcttcgtgg gcaagatccc gcgcgacgtg
      540
      tacgaggacg agctggtgcc cgtgttcgag gccgtgggcc gcatctacga gctgcgcctc
      600
      atgatggact ttgacggcaa gaaccgcggc tacgccttcg tcatgtactg ccacaagcac
      660
      gaggccaagc gcgcagtgcg tgagctcaac aactacgaga tccgcccggg ccgcctgctc
      720
      ggcgtgtgct gcagcgtgga caactgccgc ctcttcatcg gcgggatccc caagatgaag
      780
      aagcgcgagg aaatcctgga ggagattgcc aaggtcaccg agggcgtgct ggacgtgatc
      840
      gtctacgcca gcgcggccga caagatgaag aaccgcggct cgccttcgt ggagtacgag
      900
      agccaccgcg cggctgccat ggctcgccgc aagctcatgc ctggccgcat ccagctgtgg
      960
      ggccaccaga tcgccgtgga ctgggccgag cctgagatcg acgtggacga ggacgtgatg
      1020
      gagaccgtga agatcctcta cgtgcgcaac ctcatgatcg agaccaccga ggacaccatc
      1080
      aagaagagct tcggccagtt caaccccggc tgcgtggagc gcgtcaagaa gatccgcgac
      1140
      tacgccttcg tgcacttcac cagccgcgag gatgccgtgc atgccatgaa caacctcaac
      1200
      ggcactgagc tggagggctc gtgcctggag gtcacgctgg ccaagcccgt ggacaaggag
      1260
      cagtactcgc gctaccagaa ggcagccagg ggcggcggcg cggctgaggc agcgcagcag
      1320
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cccagctacg tgtactcctg cgacccctac acactggcct actacggcta cccctacaac
1380
gcgctcattg ggcccaacag ggactacttt gtgaaagcag gcagcataag aggccgaggg
1440
cgaggtgcag ctggcaacag agccccaggg cctaggggtt cctacctcgg gggatattct
1500
gctggccgtg gtatatatag ccgatatcat gaagggaaag gaaagcagca agaaaaagga
1560
tatgaactgg tgccgaattt ggaaatccct accgtcaacc cagttgccat taaacctggt
1620
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1680
aaaatgattg aagatggcaa aatccacaca gtggagcaca tgatcagccc cattgctgtg
1740
cagccagacc cagccagtgc tgctgccgcc gcagccgcgg ccgcagccgc cgcagccgct
1800
gtcattccca ctgtgtcgac gccaccacct ttccagggcc gcccaataac tccagtatac
1860
acggtggctc caaacgttca gagaattcct actgccggga tctacggggc cagttacgtg
1920
ccatttgctg ctccagctac agccacgatc gccacactac agaagaacgc ggcagccgcg
1980
gccgccgtgt atggaggata cgcaggctac atacctcagg ccttccctgc tgctgccatt
2040
caggtcccca tccccgacgt ctaccagaca tactgaggct ggtgaccagc acgaagacag
2100
accacacaaa caccactgaa ggaacgcttg actatttatg aagaaggaac atgttggatt
2160
cacacatgca acctgaaagt gaagaatgtt agcagattta tttctgaatt attttatata
2220
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2280
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2340
tactacattt gtatagaggt ttttgttgtt gttttttaa ggatatattt tcagtatgaa
2400
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2460
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2520
acaatattta aagatacaaa cagtagtgct taaaaatact acataaagca ttattttaaa
2580
ggttatactg gaaagtgcaa ttttaaaatg agtaaaacct ctgtatttct gctggcatta
2640
agggttgatg gtgttaccat gtatcatcat ggcggtacta ttttttaaaa gaaattaaac
2700
actggatctc tccttaagcc aacattgaaa agacttgccg cacttctgag tccaaacact
2760
ggaaagctct cctttgccac cgttagccgg ggctcattct ccatgtgcct tagccttaaa
2820
catgccccca ctcccacatc tctcaccctg tcccctcctc cccagattcc caatcccacc
2880
gcaatgtttg gcaagcctag gactgataag tagctctgat agaggagctg gtggctttta
2940
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tacttcttcc tgggttttg ttggggtttg ttgtttcgtt gttttttggt ttttttttgg
3000
tttggttggg gaagtattgt cttctacgtg tgccattttc agtagcagag taagct
3056

<210> 5532
<211> 593
<212> PRT
<213> Homo sapiens

<400> 5532
Met Thr Ala Glu Asp Ser Thr Ala Ala Met Ser Ser Asp Ser Ala Ala
 1   5   10   15
Gly Ser Ser Ala Lys Val Pro Glu Gly Val Ala Gly Ala Pro Asn Glu
            20   25   30
Ala Ala Leu Leu Ala Leu Met Glu Arg Thr Gly Tyr Ser Met Val Gln
            35   40   45
Glu Asn Gly Gln Arg Lys Tyr Gly Gly Pro Pro Pro Gly Trp Glu Gly
    50   55   60
Pro His Pro Gln Arg Gly Cys Glu Val Phe Val Gly Lys Ile Pro Arg
65   70   75   80
Asp Val Tyr Glu Asp Glu Leu Val Pro Val Phe Glu Ala Val Gly Arg
                85   90   95
Ile Tyr Glu Leu Arg Leu Met Met Asp Phe Asp Gly Lys Asn Arg Gly
            100   105   110
Tyr Ala Phe Val Met Tyr Cys His Lys His Glu Ala Lys Arg Ala Val
            115   120   125
Arg Glu Leu Asn Asn Tyr Glu Ile Arg Pro Gly Arg Leu Leu Gly Val
    130   135   140
Cys Cys Ser Val Asp Asn Cys Arg Leu Phe Ile Gly Gly Ile Pro Lys
145   150   155   160
Met Lys Lys Arg Glu Glu Ile Leu Glu Glu Ile Ala Lys Val Thr Glu
                165   170   175
Gly Val Leu Asp Val Ile Val Tyr Ala Ser Ala Ala Asp Lys Met Lys
                180   185   190
Asn Arg Gly Phe Ala Phe Val Glu Tyr Glu Ser His Arg Ala Ala Ala
            195   200   205
Met Ala Arg Arg Lys Leu Met Pro Gly Arg Ile Gln Leu Trp Gly His
    210   215   220
Gln Ile Ala Val Asp Trp Ala Glu Pro Glu Ile Asp Val Asp Glu Asp
225   230   235   240
Val Met Glu Thr Val Lys Ile Leu Tyr Val Arg Asn Leu Met Ile Glu
                245   250   255
Thr Thr Glu Asp Thr Ile Lys Lys Ser Phe Gly Gln Phe Asn Pro Gly
                260   265   270
Cys Val Glu Arg Val Lys Lys Ile Arg Asp Tyr Ala Phe Val His Phe
            275   280   285
Thr Ser Arg Glu Asp Ala Val His Ala Met Asn Asn Leu Asn Gly Thr
    290   295   300
Glu Leu Glu Gly Ser Cys Leu Glu Val Thr Leu Ala Lys Pro Val Asp
305   310   315   320
Lys Glu Gln Tyr Ser Arg Tyr Gln Lys Ala Ala Arg Gly Gly Gly Ala
                325   330   335
Ala Glu Ala Ala Gln Gln Pro Ser Tyr Val Tyr Ser Cys Asp Pro Tyr

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                340                  345                  350
Thr Leu Ala Tyr Tyr Gly Tyr Pro Tyr Asn Ala Leu Ile Gly Pro Asn
            355                  360                  365
Arg Asp Tyr Phe Val Lys Ala Gly Ser Ile Arg Gly Arg Gly Arg Gly
        370                  375                  380
Ala Ala Gly Asn Arg Ala Pro Gly Pro Arg Gly Ser Tyr Leu Gly Gly
385                  390                  395                  400
Tyr Ser Ala Gly Arg Gly Ile Tyr Ser Arg Tyr His Glu Gly Lys Gly
                405                  410                  415
Lys Gln Gln Glu Lys Gly Tyr Glu Leu Val Pro Asn Leu Glu Ile Pro
                420                  425                  430
Thr Val Asn Pro Val Ala Ile Lys Pro Gly Thr Val Ala Ile Pro Ala
            435                  440                  445
Ile Gly Ala Gln Tyr Ser Met Phe Pro Ala Ala Pro Ala Pro Lys Met
        450                  455                  460
Ile Glu Asp Gly Lys Ile His Thr Val Glu His Met Ile Ser Pro Ile
465                  470                  475                  480
Ala Val Gln Pro Asp Pro Ala Ser Ala Ala Ala Ala Ala Ala Ala Ala
                485                  490                  495
Ala Ala Ala Ala Ala Ala Val Ile Pro Thr Val Ser Thr Pro Pro Pro
                500                  505                  510
Phe Gln Gly Arg Pro Ile Thr Pro Val Tyr Thr Val Ala Pro Asn Val
            515                  520                  525
Gln Arg Ile Pro Thr Ala Gly Ile Tyr Gly Ala Ser Tyr Val Pro Phe
        530                  535                  540
Ala Ala Pro Ala Thr Ala Thr Ile Ala Thr Leu Gln Lys Asn Ala Ala
545                  550                  555                  560
Ala Ala Ala Ala Val Tyr Gly Gly Tyr Ala Gly Tyr Ile Pro Gln Ala
                565                  570                  575
Phe Pro Ala Ala Ala Ile Gln Val Pro Ile Pro Asp Val Tyr Gln Thr
            580                  585                  590
Tyr
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<210> 5533
<211> 505
<212> DNA
<213> Homo sapiens

<400> 5533
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120
gaatccatcg acgaggatga actcctcgcc tccctgtcag ccgaggagct gaaggagcta
180
gagagagagt tggaagacat tgaacctgac cgcaaccttc ccgtggggct aaggcaaaag
240
agcctgacag agaaaacccc cacagggaca ttcagcagag aggcactgat ggcctattgg
300
gaaaaggagt cccaaaaact cttggagaag gagaggctgg gggaatgtgg aaaggttgca
360
gaagacaaag aggaaagtga ggaagagctt atctttactg aaagtaacag tgaggtttct
420
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gaggaagtgt atacagagga ggaggaggag gagtcccagg aggaagagga ggaagaagac
480
agtgacgaag aggaaagaac aattg
505

<210> 5534
<211> 168
<212> PRT
<213> Homo sapiens

<400> 5534
Xaa Leu Ala Ser Leu Pro Ala Ser Gly Cys Leu Glu Cys Leu Val Leu
  1   5   10   15
Gln Ala Pro Ser Gly Ser Asp Lys Ala Gly Thr Met Ser Thr Phe Gly
             20   25   30
Tyr Arg Arg Gly Leu Ser Lys Tyr Glu Ser Ile Asp Glu Asp Glu Leu
         35   40   45
Leu Ala Ser Leu Ser Ala Glu Glu Leu Lys Glu Leu Glu Arg Glu Leu
     50   55   60
Glu Asp Ile Glu Pro Asp Arg Asn Leu Pro Val Gly Leu Arg Gln Lys
 65   70   75   80
Ser Leu Thr Glu Lys Thr Pro Thr Gly Thr Phe Ser Arg Glu Ala Leu
                 85   90   95
Met Ala Tyr Trp Glu Lys Glu Ser Gln Lys Leu Leu Glu Lys Glu Arg
                100   105   110
Leu Gly Glu Cys Gly Lys Val Ala Glu Asp Lys Glu Glu Ser Glu Glu
            115   120   125
Glu Leu Ile Phe Thr Glu Ser Asn Ser Glu Val Ser Glu Glu Val Tyr
        130   135   140
Thr Glu Glu Glu Glu Glu Glu Ser Gln Glu Glu Glu Glu Glu Glu Asp
145   150   155   160
Ser Asp Glu Glu Glu Arg Thr Ile
                165

<210> 5535
<211> 1887
<212> DNA
<213> Homo sapiens

<400> 5535
ngcacgagcc gagccttctc agacccgggg gacgcctaac cccgcgagat gaggaaactg
60
aggccgcgag agccgcacac agcagagaag cagcagaatc gggaatcaaa cccagctctg
120
tctgacccca gagcctgtgc ctttaaccac tggctaggct gaactgcctt tgttcttcac
180
tgtccccatc acctctttca aacctcagcc tctccttcct catcgttaca tctctaggct
240
gcacctgctc tctaaacatt cacacaaacc ctgcaaattt tcttcctcat aattgggaga
300
agactcactg gccgaatggc agcagtagat gacttgcaat ttgaagaatt tggcaatgca
360
gccacttctc tgacagcaaa cccagatgcc accacagtaa acattgagga tcctggtgaa
420

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accccaaaac atcagccagg atccccaaga ggctcaggaa gagaagaaga tgatgagtta
480
ctgggaaatg atgactctga caaaactgag ttacttgctg gacagaagaa aagctccccc
540
ttctggacat ttgaatacta ccaaacattc tttgatgtgg acacctacca ggtctttgac
600
agaattaaag gatctctttt gccaataccc gggaaaaact ttgtgaggtt atatatccgc
660
agcaatccag atctctatgg ccccttttgg atatgtgcca cgttggtctt tgccatagca
720
attagtggga atctttccaa cttcttgatc catctgggag agaagacgta ccattatgtg
780
cccgaattcc gaaaagtgtc catagcagct accatcatct atgcctatgc ctggctggtt
840
cctcttgcac tctggggttt cctcatgtgg agaaacagca aagttatgaa catcgtctcc
900
tattcatttc tggagattgt gtgtgtctat ggatattccc tcttcattta tatccccacc
960
gcaatactgt ggattatccc ccagaaagct gttcgttgga ttctagtcat gattgccctg
1020
ggcatctcag gatctctctt ggcaatgaca ttttggccag ctgttcgtga ggataaccga
1080
cgcgttgcat tggccacaat tgtgacaatt gtgttgctcc atatgctgct ttctgtgggc
1140
tgcttggcat actttttga tgcaccagag atggaccatc tcccaacaac tacagctact
1200
ccaaaccaaa cagttgctgc agccaagtcc agctaatgag gaaagactca cttgagatac
1260
cctctccttg ctgaagtttt tcttgacttc tccagttctc ttttgttttt tggagcatgg
1320
ttctttggga agtggcatcc actgcaggaa agcagaatga gcagagccag cagaactgat
1380
ggagtggcac aaattcccag tgtctggatg gtgccacact ggcgcctaat cacccgttta
1440
acaagcagaa attaaatgtt gctcagcaca tgtgtctttc agctcttcct tttcacccat
1500
ggatgatcat tgcgagcatg cgctgattgg actgaaatgc cggggaatag gttaggcatg
1560
ctcagtgccg tccctttgcc accacagtca aatgacatgc ttcactgtgg taccttaata
1620
cctgaaatag aaccatggaa aattctgatg tcctctctct gaattatgta cagactacct
1680
gggggatcct cttctctcca aatgttagcc atcctgaagt agccgaacag tagaaacttt
1740
ggtggggatt aaccgggagc ttgaaaattt gtctttggta acctgatact ggacagctga
1800
actgaatggc tgcaaaataa atacctcaca tgatgtctgt gtctgcaaaa aaaaaaaaaa
1860
aaaaaaaaaa aaaaaaaaaa aaaaaaa
1887

<210> 5536
<211> 306
<212> PRT
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<213> Homo sapiens

<400> 5536
Met Ala Ala Val Asp Asp Leu Gln Phe Glu Glu Phe Gly Asn Ala Ala
1   .5   10   15
Thr Ser Leu Thr Ala Asn Pro Asp Ala Thr Thr Val Asn Ile Glu Asp
            20   25   30
Pro Gly Glu Thr Pro Lys His Gln Pro Gly Ser Pro Arg Gly Ser Gly
        35   40   45
Arg Glu Glu Asp Asp Glu Leu Leu Gly Asn Asp Asp Ser Asp Lys Thr
    50   55   60
Glu Leu Leu Ala Gly Gln Lys Lys Ser Ser Pro Phe Trp Thr Phe Glu
65   70   75   80
Tyr Tyr Gln Thr Phe Phe Asp Val Asp Thr Tyr Gln Val Phe Asp Arg
                85   90   95
Ile Lys Gly Ser Leu Leu Pro Ile Pro Gly Lys Asn Phe Val Arg Leu
            100   105   110
Tyr Ile Arg Ser Asn Pro Asp Leu Tyr Gly Pro Phe Trp Ile Cys Ala
        115   120   125
Thr Leu Val Phe Ala Ile Ala Ile Ser Gly Asn Leu Ser Asn Phe Leu
    130   135   140
Ile His Leu Gly Glu Lys Thr Tyr His Tyr Val Pro Glu Phe Arg Lys
145   150   155   160
Val Ser Ile Ala Ala Thr Ile Ile Tyr Ala Tyr Ala Trp Leu Val Pro
                165   170   175
Leu Ala Leu Trp Gly Phe Leu Met Trp Arg Asn Ser Lys Val Met Asn
                180   185   190
Ile Val Ser Tyr Ser Phe Leu Glu Ile Val Cys Val Tyr Gly Tyr Ser
            195   200   205
Leu Phe Ile Tyr Ile Pro Thr Ala Ile Leu Trp Ile Ile Pro Gln Lys
    210   215   220
Ala Val Arg Trp Ile Leu Val Met Ile Ala Leu Gly Ile Ser Gly Ser
225   230   235   240
Leu Leu Ala Met Thr Phe Trp Pro Ala Val Arg Glu Asp Asn Arg Arg
                245   250   255
Val Ala Leu Ala Thr Ile Val Thr Ile Val Leu Leu His Met Leu Leu
                260   265   270
Ser Val Gly Cys Leu Ala Tyr Phe Phe Asp Ala Pro Glu Met Asp His
        275   280   285
Leu Pro Thr Thr Thr Ala Thr Pro Asn Gln Thr Val Ala Ala Ala Lys
    290   295   300
Ser Ser
305

<210> 5537
<211> 2881
<212> DNA
<213> Homo sapiens

<400> 5537
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aggcttggtt gtgtgccagg ataaggggca caagggcctc gggtgtggcc agagaccccca
120

4716

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tgcttaagct tttatggtat aggtcaggct gcaggggttt gagggcctca gttgtatatc
180
agaatcttca gagcactgcg atgttcaggg gtgagtcagg tctgtagatg tgcacggggt
240
cttctgaagg gtcagtttct gtaatcactt tcaggtgtgt cagggccttg tgcagtaaca
300
gtgcacacag aagttagtgt ttctgtgggc taagggttgt agctctgtat caggattctg
360
ggagtgggtc tggatttctg gtgtgtggac ttaagaagct gtgtcagact tgggggaggg
420
gcgttcatgt ataactgggt tcacataggc caagactccc aggtgcattt taggcagagc
480
ctcaggtgtg ttagaggtcc caggggcaga gaggctatag gtgctgtcag aggccttggg
540
gacatttagg gcagagcctc gagtgacagg tcctgggaca gtgggagcca agggcaagtg
600
ctagagttgc agtgaattta gagcaaagcc tcagctaagt gacacatccc agggcagtag
660
gggatctatc taggttcgtg ctgggcctca ggtaagtgac aggccttagg acaatggggg
720
ctgtggcatg cgtcaggtta cctgccttga tatgggatcg tgacaggccc ctccctatgt
780
gcaggagaca agcagcccaa gaaacaggag aaaaacccag tgttggtgtc cccagagttt
840
gtggatgaag ctctgtgtgc gtgcgaggag taccttagca acttggccca catggacatc
900
gacaaggacc tggaggcccc gctgtacctc accccgagg gctggtccct cttcctccag
960
cgctactacc aagtggtcca cgaaggggca gaactcaggc acctcgacac tcaggtccag
1020
cgctgtgagg acatcctgca gcagctgcag gccgtggtac cccagataga catggaaggg
1080
gatcgcaaca tctggatcgt gaagccagga gccaagtccc gtggacgagg catcatgtgc
1140
atggaccacc tggaggagat gctgaagctg gtgaacggca accccgtggt gatgaaggac
1200
ggcaagtggg tggtgcagaa gtatattgag cggcccctcc tcatctttgg caccaagttt
1260
gacctcagac agtggttcct ggtaactgac tggaacccac ttaccgtgtg gttctaccgc
1320
gacagctata tccgcttttc cacgcagccc ttctccctga gaacctggga caactcagtg
1380
cacctgtgca acaactccat ccagaagcac ctggagaact catgccatcg gcatccactg
1440
cttccgccag acaacatgtg gtctagccag aggttccagg cccacctgca ggagatgggt
1500
gccccaaatg cttggtccac catcatcgtg cctggcatga aggatgctgt gatccacgca
1560
cttcagacct cccaggacac cgtgcagtgt cggaaggcca gctttgagct ctatggcgct
1620
gacttcgtgt cgggggagga cttccagccc tggctgattg agatcaacgc cagccccacg
1680
atggcaccct ccacagcagt cactgcccgg ctctgtgctg gcgtgcaagc tgacaccctg
1740
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4717

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cgcgtggtca ttgaccggag gctggaccgc aactgtgaca caggagcctt tgagctcatc
1800
tataagcagc ccgtcaccac ttccccagcc tccacaccaa ggcccagctg ccttctcccc
1860
atgtactccg acaccagggc caggtcctca gacgacagca cagcaagctg gtgggcacta
1920
aggccctgtc gaccacaggc aaggccttga ggactctacc cacggctaag gtcttcattt
1980
ccctcccacc gaaccttgat ttcaaggtgg cacccagcat cctgaagcca agaaaggtgg
2040
gcctcgacct gtgactcaca cccagtggac agtgctgagc acggggtcag ggctggaggg
2100
cacaggcaga gggcagctcc caggctggct ggcaccccaa gggaagagct ggtctccctc
2160
agaagcccct tcctccacag acttctgatc atctccctct tctcccctcc tttcacaccg
2220
aggctcctgc tctcctgtgc ctccgaggcc cccagctgga agtgccttgt tgcctctgcc
2280
ctttgaagtc ggaacaattc ctagcacctg tcggaaggtc aaggccaaag gcaaattcaa
2340
ggccagactg tgacaaaccc agggctgagg cctgccccat gaagaggctg agccccctga
2400
aacccctgcc ccttgttggt acattccaga ggcgcagggg cctgggggat atgaagctag
2460
ggaagcccct gcttcgattc cccactgccc ttgtcctgga tccaacacca aataaaaaga
2520
aacaagtgaa gtatttgggg cttgactcca ttgctgttgg agggtcaaga gtggatgggg
2580
cgaggccgtg taccccaggg tccacagcaa gagcctgagg ccatcagcag ctcctccgtg
2640
cagcgaggcc cagaattccc acctaaggac agacatgggg cttcctattt agggactccc
2700
ccagcatctc cgatccaggg gtggggagcg tgagccttca ctttacagat gaagaaactg
2760
agtctgaaag aggaggcatg gcttacccaa gatcacgtgg cagtgagtcg acgcagggac
2820
atattgccag aactgccgag cactgggagc cccccaaccc cagagaacaa gccaagctag
2880
c
2881


<210> 5538
<211> 352
<212> PRT
<213> Homo sapiens

<400> 5538
Met Asp Ile Asp Lys Asp Leu Glu Ala Pro Leu Tyr Leu Thr Pro Glu
1               5                   10                  15
Gly Trp Ser Leu Phe Leu Gln Arg Tyr Tyr Gln Val Val His Glu Gly
            20                  25                  30
Ala Glu Leu Arg His Leu Asp Thr Gln Val Gln Arg Cys Glu Asp Ile
        35                  40                  45
Leu Gln Gln Leu Gln Ala Val Val Pro Gln Ile Asp Met Glu Gly Asp
```

4718

```
       50                    55                    60
Arg Asn Ile Trp Ile Val Lys Pro Gly Ala Lys Ser Arg Gly Arg Gly
65                    70                    75                    80
Ile Met Cys Met Asp His Leu Glu Glu Met Leu Lys Leu Val Asn Gly
                 85                    90                    95
Asn Pro Val Val Met Lys Asp Gly Lys Trp Val Val Gln Lys Tyr Ile
                100                   105                   110
Glu Arg Pro Leu Leu Ile Phe Gly Thr Lys Phe Asp Leu Arg Gln Trp
            115                   120                   125
Phe Leu Val Thr Asp Trp Asn Pro Leu Thr Val Trp Phe Tyr Arg Asp
        130                   135                   140
Ser Tyr Ile Arg Phe Ser Thr Gln Pro Phe Ser Leu Lys Asn Leu Asp
145                   150                   155                   160
Asn Ser Val His Leu Cys Asn Asn Ser Ile Gln Lys His Leu Glu Asn
                165                   170                   175
Ser Cys His Arg His Pro Leu Leu Pro Pro Asp Asn Met Trp Ser Ser
                180                   185                   190
Gln Arg Phe Gln Ala His Leu Gln Glu Met Gly Ala Pro Asn Ala Trp
            195                   200                   205
Ser Thr Ile Ile Val Pro Gly Met Lys Asp Ala Val Ile His Ala Leu
        210                   215                   220
Gln Thr Ser Gln Asp Thr Val Gln Cys Arg Lys Ala Ser Phe Glu Leu
225                   230                   235                   240
Tyr Gly Ala Asp Phe Val Phe Gly Glu Asp Phe Gln Pro Trp Leu Ile
                245                   250                   255
Glu Ile Asn Ala Ser Pro Thr Met Ala Pro Ser Thr Ala Val Thr Ala
                260                   265                   270
Arg Leu Cys Ala Gly Val Gln Ala Asp Thr Leu Arg Val Val Ile Asp
            275                   280                   285
Arg Arg Leu Asp Arg Asn Cys Asp Thr Gly Ala Phe Glu Leu Ile Tyr
        290                   295                   300
Lys Gln Pro Val Thr Thr Ser Pro Ala Ser Thr Pro Arg Pro Ser Cys
305                   310                   315                   320
Leu Leu Pro Met Tyr Ser Asp Thr Arg Ala Arg Ser Ser Asp Asp Ser
                325                   330                   335
Thr Ala Ser Trp Trp Ala Leu Arg Pro Cys Arg Pro Gln Ala Arg Pro
                340                   345                   350
```

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<210> 5539
<211> 1887
<212> DNA
<213> Homo sapiens

<400> 5539
nntttagaag gttagtgttg gttcttgtat tcgattaaac aggaatacac atatgtctac
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caaagaatag gtaagggaga aataagaaca ctaaaaaaac tcggaatcgt taagtgtgaa
120
gcatatttgg agttaaaaga accaaatatt actaagtaag cagacgcggg cacgcgctgc
180
ataccgggat ttgtagtccc ttccggggcg gggtacagcg cgcctgcgca gagggccgt
240
cgctcttccg ggcgcatgcg tgcggcagcg gcgccaggac tgactgcgcc gtggaggctg
300
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ctgcagtgtt gtgagttgga agctggggag ctcggcatgg cggtccccgc tgcagccatg
360
gggccctcgg cgttgggcca gagcggcccc ggctcgatgg ccccgtggtg ctcagtgagc
420
agcggcccgt cgcgctacgt gcttgggatg caggagctgt tccggggcca cagcaagacg
480
cgcgagttcc tggcgcacag cgccaaggtg cactcggtgg cctggagttg cgacgggcgt
540
cgcctagcct cggggtcctt cgacaagacg gccagcgtct tcttgctgga gaggaccggt
600
tggtcaaaga aaacaattat cggggacatg gggatangtg tggaccagct ttgttggcat
660
ccaagtaatc ctgacctatt tgttacggcg tccggagata aaaccattcg catctgggat
720
gtgaggacta caaaatgcat tgccactgtg aacactaaag gggagaacat taatatctgc
780
tggagtcctg atgggcagac cattgctgta ggcaacaagg atgatgtggt gacctttatt
840
gatgccaaga cacaccgttc caaagcagaa gagcagttca agttcgaggt caacgaaatc
900
tcctggaaca atgacaataa tatgttcttc ctgacaaatg gcaatggttg tatcaacatc
960
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1020
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1080
agcctctggg atgtggatga gttagtgtgt gttcggtgct tttccaggct ggattggcct
1140
gtaagaaccc tcagtttcag ccatgatggg aaaatgctgg cgtcagcatc ggaagatcat
1200
tttattgaca ttgctgaagt ggagacaggg gacaaactat gggaggtaca gtgtgagtct
1260
ccgaccttca cagtggcgtg gcaccccaaa aggcctctgc tggcatttgc ctgtgatgac
1320
aaagacggca aatatgacag cagccgggaa gccggaactg tgaagctgtt tgggcttcct
1380
aatgattctt gagaggaggt tgtaggagga ggaggccccg gcagaggtct tccttcatgt
1440
ggttagtttg gtctgttctc tcggagttgg tgggcaccct aaatatttgt aagttggtat
1500
aaattgtaaa cgtctctggt caggctgcgc atttcgttct tttgctttgt ctgtgtatta
1560
gctctttcca ttctttgccc ccagcatgag ttaactcgcg tggactctgc agtgcgagta
1620
gtgaccccag cataccttgt cctctggacc tcctgtcttc tctgcttctg ggtgcatggt
1680
agactttgtg gcatttgata caacttggac aataccagt ttggagggag gggaatggaa
1740
gggcatggaa gttttttaa ataattaaaa aaatatatat ataattttga gaattgagca
1800
tttaataaac tgacttttgt tattatggaa aaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1860
aaaaaaaaaa aaaaaaaaaa aaaaaaa
1887
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4720

<210> 5540
<211> 378
<212> PRT
<213> Homo sapiens

<400> 5540
Met Arg Ala Ala Ala Ala Pro Gly Leu Thr Ala Pro Trp Arg Leu Leu
 1   5   10   15
Gln Cys Cys Glu Leu Glu Ala Gly Glu Leu Gly Met Ala Val Pro Ala
                20   25   30
Ala Ala Met Gly Pro Ser Ala Leu Gly Gln Ser Gly Pro Gly Ser Met
            35   40   45
Ala Pro Trp Cys Ser Val Ser Ser Gly Pro Ser Arg Tyr Val Leu Gly
        50   55   60
Met Gln Glu Leu Phe Arg Gly His Ser Lys Thr Arg Glu Phe Leu Ala
65   70   75   80
His Ser Ala Lys Val His Ser Val Ala Trp Ser Cys Asp Gly Arg Arg
                85   90   95
Leu Ala Ser Gly Ser Phe Asp Lys Thr Ala Ser Val Phe Leu Leu Glu
            100   105   110
Arg Thr Gly Trp Ser Lys Lys Thr Ile Ile Gly Asp Met Gly Ile Xaa
        115   120   125
Val Asp Gln Leu Cys Trp His Pro Ser Asn Pro Asp Leu Phe Val Thr
    130   135   140
Ala Ser Gly Asp Lys Thr Ile Arg Ile Trp Asp Val Arg Thr Thr Lys
145   150   155   160
Cys Ile Ala Thr Val Asn Thr Lys Gly Glu Asn Ile Asn Ile Cys Trp
                165   170   175
Ser Pro Asp Gly Gln Thr Ile Ala Val Gly Asn Lys Asp Asp Val Val
            180   185   190
Thr Phe Ile Asp Ala Lys Thr His Arg Ser Lys Ala Glu Glu Gln Phe
        195   200   205
Lys Phe Glu Val Asn Glu Ile Ser Trp Asn Asn Asp Asn Asn Met Phe
    210   215   220
Phe Leu Thr Asn Gly Asn Gly Cys Ile Asn Ile Leu Ser Tyr Pro Glu
225   230   235   240
Leu Lys Pro Val Gln Ser Ile Asn Ala His Pro Ser Asn Cys Ile Cys
                245   250   255
Ile Lys Phe Asp Pro Met Gly Lys Tyr Phe Ala Thr Gly Ser Ala Asp
            260   265   270
Ala Leu Val Ser Leu Trp Asp Val Asp Glu Leu Val Cys Val Arg Cys
        275   280   285
Phe Ser Arg Leu Asp Trp Pro Val Arg Thr Leu Ser Phe Ser His Asp
    290   295   300
Gly Lys Met Leu Ala Ser Ala Ser Glu Asp His Phe Ile Asp Ile Ala
305   310   315   320
Glu Val Glu Thr Gly Asp Lys Leu Trp Glu Val Gln Cys Glu Ser Pro
                325   330   335
Thr Phe Thr Val Ala Trp His Pro Lys Arg Pro Leu Leu Ala Phe Ala
            340   345   350
Cys Asp Asp Lys Asp Gly Lys Tyr Asp Ser Ser Arg Glu Ala Gly Thr
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Val Lys Leu Phe Gly Leu Pro Asn Asp Ser

4721

370   375

<210> 5541
<211> 1854
<212> DNA
<213> Homo sapiens

<400> 5541
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120
ccccggagc ctgcaccctt ccgagggcca taggcgaccc agggaactgg agagagctcc
180
agaaaggaaa tcccagcttt cccaaagtcc ctgtggatgc tgacaaaagg agacctgaat
240
ttttggaaga gcctgtacta ggttacccgg ctgcagagtg attttcccct ccggcactga
300
ctctccccct ccaacccca gccgtccaga gtaccatgaa gaattatgag gatgtgtgac
360
agaggtatcc agatgttgat caccactgta ggagcctttg ccgcttttag tttaatgacc
420
attgcagtgg gcacggacta ctggttatat tccagaggtg tgtgcaggac taaatctaca
480
agtgataatg aaaccagcag gaagaatgaa gaagtaatga cccattcggg gctgtggagg
540
acctgctgcc tagaaggggc tttccgaggc gtgtgcaaga aaatcgatca cttccctgaa
600
gatgctgact acgaacagga cacagccgaa tatctcctgc gagctgtgag ggcctccagt
660
gtcttcccca tcctcagtgt cacgctgctg ttcttcggcg ggctctgcgt ggcagccagt
720
gagttccacc gcagcagaca caacgtcatt ctcagcgcgg gcatcttttt tgtctctgca
780
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cagcgtgact ccaaaaaaag ttactcctat ggttggtcct tttatttcgg agccttctct
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1200
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1260
aatccggcca acaggcgcac cacgcccgtc tgaactgacc tctgacctct gccccacgcc
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cagcacagcc ttgggggaag tgtacagaga tgtctctgag gttgcatggc atggtccttg
1380

4722

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1680
cacaaatcct  caggaaacca  accaccgccc  aggtggccct  gagggaggca  ttcaccttta
1740
tgtgttagaa  aaacatgacc  agaaatcaaa  gatgtcagag  ccccgaagca  gctaatgtaa
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1854


<210> 5542
<211> 315
<212> PRT
<213> Homo sapiens

<400> 5542
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            20                  25                  30
Trp Leu Tyr Ser Arg Gly Val Cys Arg Thr Lys Ser Thr Ser Asp Asn
        35                  40                  45
Glu Thr Ser Arg Lys Asn Glu Glu Val Met Thr His Ser Gly Leu Trp
    50                  55                  60
Arg Thr Cys Cys Leu Glu Gly Ala Phe Arg Gly Val Cys Lys Lys Ile
65                  70                  75                  80
Asp His Phe Pro Glu Asp Ala Asp Tyr Glu Gln Asp Thr Ala Glu Tyr
                85                  90                  95
Leu Leu Arg Ala Val Arg Ala Ser Ser Val Phe Pro Ile Leu Ser Val
            100                 105                 110
Thr Leu Leu Phe Phe Gly Gly Leu Cys Val Ala Ala Ser Glu Phe His
        115                 120                 125
Arg Ser Arg His Asn Val Ile Leu Ser Ala Gly Ile Phe Phe Val Ser
    130                 135                 140
Ala Gly Leu Ser Asn Ile Ile Gly Ile Ile Val Tyr Ile Ser Ala Asn
145                 150                 155                 160
Ala Gly Asp Pro Gly Gln Arg Asp Ser Lys Lys Ser Tyr Ser Tyr Gly
                165                 170                 175
Trp Ser Phe Tyr Phe Gly Ala Phe Ser Phe Ile Ile Ala Glu Ile Val
            180                 185                 190
Gly Val Val Ala Val His Ile Tyr Ile Glu Lys His Gln Gln Leu Arg
        195                 200                 205
Ala Lys Ser His Ser Glu Phe Leu Lys Lys Ser Thr Phe Ala Arg Leu
    210                 215                 220
Pro Pro Tyr Arg Tyr Arg Phe Arg Arg Arg Ser Ser Ser Arg Ser Thr
225                 230                 235                 240
Glu Pro Arg Ser Arg Asp Leu Ser Pro Ile Ser Lys Gly Phe His Thr
```

```
                   245               250               255
Ile Pro Ser Thr Asp Ile Ser Met Phe Thr Leu Ser Arg Asp Pro Ser
            260               265               270
Lys Ile Thr Met Gly Thr Leu Leu Asn Ser Asp Arg Asp His Ala Phe
        275               280               285
Leu Gln Phe His Asn Ser Thr Pro Lys Glu Phe Lys Glu Ser Leu His
    290               295               300
Asn Asn Pro Ala Asn Arg Arg Thr Thr Pro Val
305               310               315
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<210> 5543
<211> 4021
<212> DNA
<213> Homo sapiens

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240
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480
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720
cagcggctgg agcagcagct gctcatcctg cggaacaagg agaagagcaa agagagtgcc
780
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840
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960
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gcctctgaac ccaacttgaa agtgcgttca aggctaaaac agaaggtggc tgagcggaga
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1140
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2760
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4021

<210> 5544
<211> 1141
<212> PRT
<213> Homo sapiens

<400> 5544
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Ile Tyr Glu Thr Glu Ser Cys Phe Ser Ala Asp Gly Met Ser Gly Arg

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Glu Pro Ser Leu Glu Ile Leu Pro Arg Thr Ser Leu His Ser Ile Pro
            35                      40                      45
Val Thr Val Glu Val Lys Pro Val Leu Pro Arg Ala Met Pro Ser Ser
            50                      55                      60
Met Gly Gly Gly Gly Gly Gly Ser Pro Ser Pro Val Glu Leu Arg Gly
65                      70                      75                      80
Ala Leu Val Gly Ser Val Asp Pro Thr Leu Arg Glu Gln Gln Leu Gln
                85                      90                      95
Gln Glu Leu Leu Ala Leu Lys Gln Gln Gln Gln Leu Gln Lys Gln Leu
            100                     105                     110
Leu Phe Ala Glu Phe Gln Lys Gln His Asp His Leu Thr Arg Gln His
            115                     120                     125
Glu Val Gln Leu Gln Lys His Leu Lys Gln Gln Gln Glu Met Leu Ala
            130                     135                     140
Ala Lys Gln Gln Gln Glu Met Leu Ala Ala Lys Arg Gln Gln Glu Leu
145                     150                     155                     160
Glu Gln Gln Arg Gln Arg Glu Gln Gln Arg Gln Glu Glu Leu Glu Lys
                165                     170                     175
Gln Arg Leu Glu Gln Gln Leu Leu Ile Leu Arg Asn Lys Glu Lys Ser
            180                     185                     190
Lys Glu Ser Ala Ile Ala Ser Thr Glu Val Lys Leu Arg Leu Gln Glu
            195                     200                     205
Phe Leu Leu Ser Lys Ser Lys Glu Pro Thr Pro Gly Gly Leu Asn His
            210                     215                     220
Ser Leu Pro Gln His Pro Lys Cys Trp Gly Ala His His Ala Ser Leu
225                     230                     235                     240
Asp Gln Ser Ser Pro Pro Gln Ser Gly Pro Pro Gly Thr Pro Pro Ser
                245                     250                     255
Tyr Lys Leu Pro Leu Pro Gly Pro Tyr Asp Ser Arg Asp Asp Phe Pro
            260                     265                     270
Leu Arg Lys Thr Ala Ser Glu Pro Asn Leu Lys Val Arg Ser Arg Leu
            275                     280                     285
Lys Gln Lys Val Ala Glu Arg Arg Ser Ser Pro Leu Leu Arg Arg Lys
            290                     295                     300
Asp Gly Thr Val Ile Ser Thr Phe Lys Lys Arg Ala Val Glu Ile Thr
305                     310                     315                     320
Gly Ala Gly Pro Gly Ala Ser Ser Val Cys Asn Ser Ala Pro Gly Ser
                325                     330                     335
Gly Pro Ser Ser Pro Asn Ser Ser His Ser Thr Ile Ala Glu Asn Gly
            340                     345                     350
Phe Thr Gly Ser Val Pro Asn Ile Pro Thr Glu Met Leu Pro Gln His
            355                     360                     365
Arg Ala Leu Pro Leu Asp Ser Ser Pro Asn Gln Phe Ser Leu Tyr Thr
            370                     375                     380
Ser Pro Ser Leu Pro Asn Ile Ser Leu Gly Leu Gln Ala Thr Val Thr
385                     390                     395                     400
Val Thr Asn Ser His Leu Thr Ala Ser Pro Lys Leu Ser Thr Gln Gln
                405                     410                     415
Glu Ala Glu Arg Gln Ala Leu Gln Ser Leu Arg Gln Gly Gly Thr Leu
            420                     425                     430
Thr Gly Lys Phe Met Ser Thr Ser Ser Ile Pro Gly Cys Leu Leu Gly
            435                     440                     445
Val Ala Leu Glu Gly Asp Gly Ser Pro His Gly His Ala Ser Leu Leu
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                   450                      455                      460
         Gln His Val Leu Leu Leu Glu Gln Ala Arg Gln Gln Ser Thr Leu Ile
         465                      470                      475                      480
         Ala Val Pro Leu His Gly Gln Ser Pro Leu Val Thr Gly Glu Arg Val
                             485                      490                      495
         Ala Thr Ser Met Arg Thr Val Gly Lys Leu Pro Arg His Arg Pro Leu
                         500                      505                      510
         Ser Arg Thr Gln Ser Ser Pro Leu Pro Gln Ser Pro Gln Ala Leu Gln
                     515                      520                      525
         Gln Leu Val Met Gln Gln Gln His Gln Gln Phe Leu Glu Lys Gln Lys
                 530                      535                      540
         Gln Gln Gln Leu Gln Leu Gly Lys Ile Leu Thr Lys Thr Gly Glu Leu
         545                      550                      555                      560
         Pro Arg Gln Pro Thr Thr His Pro Glu Glu Thr Glu Glu Glu Leu Thr
                             565                      570                      575
         Glu Gln Gln Glu Val Leu Leu Gly Glu Gly Ala Leu Thr Met Pro Arg
                         580                      585                      590
         Glu Gly Ser Thr Glu Ser Glu Ser Thr Gln Glu Asp Leu Glu Glu Glu
                     595                      600                      605
         Asp Glu Glu Glu Asp Gly Glu Glu Glu Asp Cys Ile Gln Val Lys
         610                      615                      620
         Asp Glu Glu Gly Glu Ser Gly Ala Glu Glu Gly Pro Asp Leu Glu Glu
         625                      630                      635                      640
         Pro Gly Ala Gly Tyr Lys Lys Leu Phe Ser Asp Ala Gln Pro Leu Gln
                             645                      650                      655
         Pro Leu Gln Val Tyr Gln Ala Pro Leu Ser Leu Ala Thr Val Pro His
                         660                      665                      670
         Gln Ala Leu Gly Arg Thr Gln Ser Ser Pro Ala Ala Pro Gly Gly Met
                     675                      680                      685
         Lys Ser Pro Pro Asp Gln Pro Val Lys His Leu Phe Thr Thr Gly Val
                 690                      695                      700
         Val Tyr Asp Thr Phe Met Leu Lys His Gln Cys Met Cys Gly Asn Thr
         705                      710                      715                      720
         His Val His Pro Glu His Ala Gly Arg Ile Gln Ser Ile Trp Ser Arg
                             725                      730                      735
         Leu Gln Glu Thr Gly Leu Leu Ser Lys Cys Glu Arg Ile Arg Gly Arg
                         740                      745                      750
         Lys Ala Thr Leu Asp Glu Ile Gln Thr Val His Ser Glu Tyr His Thr
                     755                      760                      765
         Leu Leu Tyr Gly Thr Ser Pro Leu Asn Arg Gln Lys Leu Asp Ser Lys
                 770                      775                      780
         Lys Leu Leu Gly Pro Ile Ser Gln Lys Met Tyr Ala Val Leu Pro Cys
         785                      790                      795                      800
         Gly Gly Ile Gly Val Asp Ser Asp Thr Val Trp Asn Glu Met His Ser
                             805                      810                      815
         Ser Ser Ala Val Arg Met Ala Val Gly Cys Leu Leu Glu Leu Ala Phe
                         820                      825                      830
         Lys Val Ala Ala Gly Glu Leu Lys Asn Gly Phe Ala Ile Ile Arg Pro
                     835                      840                      845
         Pro Gly His His Ala Glu Glu Ser Thr Ala Met Gly Phe Cys Phe Phe
                 850                      855                      860
         Asn Ser Val Ala Ile Thr Ala Lys Leu Leu Gln Gln Lys Leu Asn Val
         865                      870                      875                      880
         Gly Lys Val Leu Ile Val Asp Trp Asp Ile His His Gly Asn Gly Thr
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Gln Gln Ala Phe Tyr Asn Asp Pro Ser Val Leu Tyr Ile Ser Leu His
                900                     905                     910
Arg Tyr Asp Asn Gly Asn Phe Phe Pro Gly Ser Gly Ala Pro Glu Glu
            915                     920                     925
Val Gly Gly Gly Pro Gly Val Gly Tyr Asn Val Asn Val Ala Trp Thr
        930                     935                     940
Gly Gly Val Asp Pro Pro Ile Gly Asp Val Glu Tyr Leu Thr Ala Phe
945                     950                     955                     960
Arg Thr Val Val Met Pro Ile Ala His Glu Phe Ser Pro Asp Val Val
                965                     970                     975
Leu Val Ser Ala Gly Phe Asp Ala Val Glu Gly His Leu Ser Pro Leu
                980                     985                     990
Gly Gly Tyr Ser Val Thr Ala Arg Cys Phe Gly His Leu Thr Arg Gln
            995                     1000                    1005
Leu Met Thr Leu Ala Gly Gly Arg Val Val Leu Ala Leu Glu Gly Gly
        1010                    1015                    1020
His Asp Leu Thr Ala Ile Cys Asp Ala Ser Glu Ala Cys Val Ser Ala
1025                    1030                    1035                    1040
Leu Leu Ser Val Glu Leu Gln Pro Leu Asp Glu Ala Val Leu Gln Gln
                1045                    1050                    1055
Lys Pro Asn Ile Asn Ala Val Ala Thr Leu Glu Lys Val Ile Glu Ile
                1060                    1065                    1070
Gln Ser Lys His Trp Ser Cys Val Gln Lys Phe Ala Ala Gly Leu Gly
                1075                    1080                    1085
Arg Ser Leu Arg Glu Ala Gln Ala Gly Glu Thr Glu Glu Ala Glu Thr
            1090                    1095                    1100
Val Ser Ala Met Ala Leu Leu Ser Val Gly Ala Glu Gln Ala Gln Ala
1105                    1110                    1115                    1120
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Gln Glu Pro Ala Leu
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<211> 1932
<212> DNA
<213> Homo sapiens

<400> 5545
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240
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360
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420
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1800
ctccatggag caaacggagc cacctcggga aagagtttaa tggaatattt ttgtacccga
1860
tgtttacaga tgctgttggg aagttatcaa taaaaagaca ccattactaa aaagggaaaa
1920
gtaaaaaaaa aa
1932

<210> 5546
```

<211> 183
<212> PRT
<213> Homo sapiens

<400> 5546
Ala Ala Glu Glu Glu Lys Glu Met Asp Leu Pro Asp Ser Ala Ser Arg
1   5   10   15
Val Phe Cys Gly Arg Ile Leu Ser Met Val Asn Thr Asp Asp Val Asn
            20   25   30
Ala Ile Ile Leu Ala Gln Lys Asn Met Leu Asp Arg Phe Glu Lys Thr
        35   40   45
Asn Glu Met Leu Leu Asn Phe Asn Asn Leu Ser Ser Ala Arg Leu Gln
    50   55   60
Gln Met Ser Glu Arg Phe Leu His His Thr Arg Thr Leu Val Glu Met
65   70   75   80
Lys Arg Asp Leu Asp Ser Ile Phe Arg Arg Ile Arg Thr Leu Lys Gly
            85   90   95
Lys Leu Ala Arg Gln His Pro Glu Ala Phe Ser His Ile Pro Glu Ala
        100   105   110
Ser Phe Leu Glu Glu Glu Asp Glu Asp Pro Ile Pro Pro Ser Thr Thr
        115   120   125
Thr Thr Ile Ala Thr Ser Glu Gln Ser Thr Gly Ser Cys Asp Thr Ser
    130   135   140
Pro Asp Thr Val Ser Pro Ser Leu Ser Pro Gly Phe Glu Asp Leu Ser
145   150   155   160
His Val Gln Pro Gly Ser Pro Ala Ile Asn Gly Arg Ser Gln Thr Asp
            165   170   175
Asp Glu Glu Met Thr Gly Glu
            180

<210> 5547
<211> 1391
<212> DNA
<213> Homo sapiens

<400> 5547
nntgtcctac ggcggacagt ttcgtaccgg cttcttctct ggggtagggg tagcctcgcc
60
cggaagcaag gcctctggaa aaccgcggcc cctgagttgc aaacaaatgt cagatcccag
120
atattaaggc taagacatac tgcatttgta ataccaaaga aaaacgttcc tacctcaaaa
180
cgtgaaactt acacagagga tttattaaa aagcagattg aagagttcaa cataggaaag
240
agacatttag ccaacatgat gggagaagat ccagaaactt tcactcaaga agatattgac
300
agagctattg cttaccttt cccaagtggt ttgtttgaga aacgagccag gccagtaatg
360
aagcatcctg aacagatttt tccaagacaa agagcaatcc agtggggaga agatggccgt
420
ccatttcact atctcttcta tactggcaaa cagtcatact attcattaat gcatgatgta
480
nntatggaat gttactcaat ttagaaanaa catcaaagtc acttgcaagc caaaagtctg
540

```
cttccagaaa aaactgtaac cagagacgtg attggcagca gatggctgat taaggaggaa
600
ctagaagaaa tgttagtgga aaaactgtca gatctagatt atatgcagtt cattcggctg
660
ctagaaaagt tattgacatc gcagtgtggt gctgctgagg aagaatttgt gcagaggttt
720
cgaagaagtg taactcttga atcaaaaaaa cagctgattg aacctgtaca gtatgatgag
780
caaggaatgg cctttagcaa aagcgaaggt aaaagaaaga ctgcaaaagc agaagcaatt
840
gtttataaac atggaagtgg aagaataaaa gtaaatggaa ttgattacca gctttacttc
900
ccgatcacac aggacagaga acagctgatg ttccctttcc actttgttga ccggctggga
960
aagcacgacg tgacctgcac agtctcaggg ggcgggaggt cagcgcaggc tggagcaata
1020
cgactggcaa tggcaaaagc cttgtgcagc tttgtcaccg aggacgaggt cgagtggatg
1080
agacaagctg gactacttac tactgatcca cgtgtgaggg aacggaagaa gccaggccaa
1140
gagggagccc gcagaaagtt tacgtggaag aaacgctaag ggtttgctcc caggaaagga
1200
gaggaagagc tatatatatg tgccgacatg tggcagacac acagtaaata atggctgacc
1260
agcatgaggg cagtactgtc agaaatttct ttgagctgtg agatggattt atttttaaat
1320
gctactttgt aaaggtgacc tttaaaaaat aaaaggaaaa taaagaatgt tagtttcaaa
1380
aaaaaaaaaa a
1391


<210> 5548
<211> 167
<212> PRT
<213> Homo sapiens

<400> 5548
Xaa Val Leu Arg Arg Thr Val Ser Tyr Arg Leu Leu Leu Trp Gly Arg
 1               5                   10                  15
Gly Ser Leu Ala Arg Lys Gln Gly Leu Trp Lys Thr Ala Ala Pro Glu
            20                  25                  30
Leu Gln Thr Asn Val Arg Ser Gln Ile Leu Arg Leu Arg His Thr Ala
        35                  40                  45
Phe Val Ile Pro Lys Lys Asn Val Pro Thr Ser Lys Arg Glu Thr Tyr
    50                  55                  60
Thr Glu Asp Phe Ile Lys Lys Gln Ile Glu Glu Phe Asn Ile Gly Lys
65                  70                  75                  80
Arg His Leu Ala Asn Met Met Gly Glu Asp Pro Glu Thr Phe Thr Gln
                85                  90                  95
Glu Asp Ile Asp Arg Ala Ile Ala Tyr Leu Phe Pro Ser Gly Leu Phe
            100                 105                 110
Glu Lys Arg Ala Arg Pro Val Met Lys His Pro Glu Gln Ile Phe Pro
        115                 120                 125
Arg Gln Arg Ala Ile Gln Trp Gly Glu Asp Gly Arg Pro Phe His Tyr
```

4732

```
    130              135              140
Leu Phe Tyr Thr Gly Lys Gln Ser Tyr Tyr Ser Leu Met His Asp Val
145              150              155              160
Xaa Met Glu Cys Tyr Ser Ile
                165
```

```
<210> 5549
<211> 1865
<212> DNA
<213> Homo sapiens
```

```
<400> 5549
gcgtcaccga gggccgcgca gactgcgacg gatacaggga gggcaagggt ttccttttgg
60
cgcttccctt tggaccccgg agtgaaaaac tctaacgtcc agatcagtgg agagaaacgc
120
agatttagga ccctgaggag tcttttttcac ccgtttcccg tcactcgctc aggcgcgccg
180
agggcagtcc ttgtggggtc ctcgtggcca gccaagatgg ttgcccccgc agtgaaggtt
240
gcccgaggat ggtcgggcct ggcgttgggc gtgcggcggg ctgtcttgca gcttccaggg
300
ctaactcagg tgagatggag ccgctatagt cctgaattca aggatccctt gattgacaag
360
gaatattatc gcaagccagt ggaggagcta actgaggagg agaaatatgt tcgggagctc
420
aagaagactc agctcatcaa agctgctcca gcagggaaaa caagttctgt gtttgaagac
480
ccagtcatca gtaaattcac caacatgatg atgataggag gaaacaaagt actggccaga
540
tccctcatga ttcagactct ggaagctgtg aaaaggaagc agtttgagaa gtaccatgcc
600
gcttctgcag aggaacaggc aaccatcgaa cgcaacccct acaccatctt ccatcaagca
660
ctgaaaaact gtgagcctat gattgggctg gtacccatcc tcaagggagg ccgtttctac
720
caggtccctg tacccctacc cgaccggcgt cgccgcttcc tagccatgaa gtggatgatc
780
actgagtgcc gggataaaaa gcaccagcgg acactgatgc cggagaagct gtcacacaag
840
ctgctggagg ctttccataa ccagggcccc gtgatcaaga ggaagcatga cttgcacaag
900
atggcagagg ccaaccgtgc cctggcccac taccgctggt ggtagagtct ccaggaggag
960
cccagggccc tctgccgcaa gaaacagtgt gagctactgc cacgctgaaa actacctgtg
1020
ggttaaggat gtagttcctt tgtaagggtg ggcaggcctc gtaagaaaga tgtagcagca
1080
tattcactat ccgttaatcc ttctttcttt gaggctggaa cttgctctct ctgcccctat
1140
ttccttgtaa agagggagca cattgacttg ggaatttcct ccaggaaact cagggctgtt
1200
ttctcttccc ttaggttggg gcggaccttt ggacatataa aggaagcagt tttagtatca
1260
```

```
gaaaagattt attagaaaat tctcacgctg aactggtgta gcatgtggtg cagcattcag
1320
tgaaactggc tggaggaaat aggcttgttt ccagagttgt ccttatacaa aatgtataaa
1380
aagcagtttc tggtgtgact tgtgctctgc ctccacccct tgacatccca aaatatccca
1440
ccagtggcta tgcttaccca ttttacagat gggtaaactg aggcaccaag gtagtagttg
1500
cactaatggt tacacagtgc agtggctctt gggagttgcc cttctctgcc tggccgtggt
1560
gggttgtggt ggggaaaggg gctcagggca ggaccacggc ataagtggga aacatctcac
1620
caggagatgg gaaagtctag aagggaagac actcaaagtc tggaagggaa aagtctttgg
1680
gtgaggcaga gactccactg ccagctttag aggtgggtag aagaaaggcc agtgctggtg
1740
aggaagccct gatctggagg cctagtcgga gacttcgctg tagtaatact tgtgggcagc
1800
tggcgttgtc ttccagccgg ccgcccggaa ctcaatgatc tccagcagca gcagctggca
1860
gggcc
1865


<210> 5550
<211> 242
<212> PRT
<213> Homo sapiens

<400> 5550
Met Val Ala Pro Ala Val Lys Val Ala Arg Gly Trp Ser Gly Leu Ala
 1               5                  10                  15
Leu Gly Val Arg Arg Ala Val Leu Gln Leu Pro Gly Leu Thr Gln Val
             20                  25                  30
Arg Trp Ser Arg Tyr Ser Pro Glu Phe Lys Asp Pro Leu Ile Asp Lys
         35                  40                  45
Glu Tyr Tyr Arg Lys Pro Val Glu Glu Leu Thr Glu Glu Glu Lys Tyr
     50                  55                  60
Val Arg Glu Leu Lys Lys Thr Gln Leu Ile Lys Ala Ala Pro Ala Gly
65                  70                  75                  80
Lys Thr Ser Ser Val Phe Glu Asp Pro Val Ile Ser Lys Phe Thr Asn
                 85                  90                  95
Met Met Met Ile Gly Gly Asn Lys Val Leu Ala Arg Ser Leu Met Ile
                100                 105                 110
Gln Thr Leu Glu Ala Val Lys Arg Lys Gln Phe Glu Lys Tyr His Ala
             115                 120                 125
Ala Ser Ala Glu Glu Gln Ala Thr Ile Glu Arg Asn Pro Tyr Thr Ile
         130                 135                 140
Phe His Gln Ala Leu Lys Asn Cys Glu Pro Met Ile Gly Leu Val Pro
145                 150                 155                 160
Ile Leu Lys Gly Gly Arg Phe Tyr Gln Val Pro Val Pro Leu Pro Asp
                 165                 170                 175
Arg Arg Arg Arg Phe Leu Ala Met Lys Trp Met Ile Thr Glu Cys Arg
                 180                 185                 190
Asp Lys Lys His Gln Arg Thr Leu Met Pro Glu Lys Leu Ser His Lys
```

```
          195              200              205
Leu Leu Glu Ala Phe His Asn Gln Gly Pro Val Ile Lys Arg Lys His
     210                  215                  220
Asp Leu His Lys Met Ala Glu Ala Asn Arg Ala Leu Ala His Tyr Arg
225                  230                  235                  240
Trp Trp
```

```
<210> 5551
<211> 1689
<212> DNA
<213> Homo sapiens

<400> 5551
ttttaaatta cattatttat tttttagatc atccctctta gtcctgcatg cattgttagc
60
acaaaaagtt gaacttgatc acaacttcct ttgaagagag agtaggtaca caatgaccat
120
ctgaagagtt tctccacgga gggaccaaga attccagacg ctggtaacac tgtcagtaac
180
ctacacaact ttcaatacaa aaaaatttac caaatatcct gtttaatgta aacaaggcag
240
gaggcaaaac agagtattac agtaacacta ttttacaggg cccagaaaat gtgattatct
300
accatgtttt aacacataaa gtgtcacaat gacatgcata tttgatttac tacataaccc
360
aaaatataat taccatatag tgtggtttta gcacttcact gtaacgtctt ctgtcaatac
420
tgatggactt cataattaaa tggcaattgt atgttaatgc aataatttat gaaaacatta
480
ccatgaattt atgaagtaat tccataattt gtgccctgta aaattaagtg taacaatgtt
540
tacactagca acagtgtaag cgagctaaga attttggtcc ttatatatat acatatatac
600
atatatacac acacaataat gtacaattaa accaaaaagc tatgaatcca ctcacagctt
660
ccatattgca caaacagata cattacgaga aagttacata gttataaggt gagtactata
720
tggcaatagg ctaagacaaa tctgagttct atcaagtaaa gaatgcggct cataactaaa
780
aacaaatcca aagactatat tgttagaaag ttttaaaaaa tgtgcatatt tattgataca
840
aatgtgaagc aaggctgaaa ttcactttgg aacttgctat ggcaatcaat tgttatgacg
900
gtgctttcca ctcagcatag tgcattttag ttactgtttt tgcaagtact gagtaacaga
960
aatattcagc tgtcaacaga aggtaagaaa aactggtgat gcagtacaat gtttcactaa
1020
caaattgaac tcactgtgag agcttctact ggctctaggt ctgaaatagg gccttcaggt
1080
tccaaaccaa gtaaccgctt tctgactaac agaagcttgg gagtaaagtc ttgaatacgc
1140
tggattcgaa gcataaggtc tccaacaacc ctgacaatta cagagaagag agatctacag
1200
```

```
ccaggagcga ggttcacgta aggatccaaa aggtactcgt ggatgtgtgg atgagggaag
1260
agagaaagtc tagataacac tgaggttact tgtaagttta catcatatgg ctgatcaaga
1320
attcttccca ttctgtcgaa cagcactttc aaaaaatgac cttcaaagaa agcagcttct
1380
aaattgcact tttccaatgc ttttggagac ccaggccact cccatcttaa gcagatagca
1440
cagtagtctc ggaactgcct atgagcgtct cggaggtaag tgtcatatcc tgtgccctca
1500
acatggtagg aggattttgc gtcatccggt accagacaga gaaaactatt tacaatttta
1560
tgaacttcag tttttccatc attttgggg tggtctggag tagcaggagg tgaagaacta
1620
agccactctt ggtttggcaa agtgttttct ggtgaaatgt cagtaaataa tggatcttct
1680
tccagatct
1689
```

```
<210> 5552
<211> 104
<212> PRT
<213> Homo sapiens
```

```
<400> 5552
Met Gly Arg Ile Leu Asp Gln Pro Tyr Asp Val Asn Leu Gln Val Thr
1               5                   10                  15
Ser Val Leu Ser Arg Leu Ser Leu Phe Pro His Pro His Ile His Glu
            20                  25                  30
Tyr Leu Leu Asp Pro Tyr Val Asn Leu Ala Pro Gly Cys Arg Ser Leu
        35                  40                  45
Phe Ser Val Ile Val Arg Val Val Gly Asp Leu Met Leu Arg Ile Gln
    50                  55                  60
Arg Ile Gln Asp Phe Thr Pro Lys Leu Leu Leu Val Arg Lys Arg Leu
65                  70                  75                  80
Leu Gly Leu Glu Pro Glu Gly Pro Ile Ser Asp Leu Glu Pro Val Glu
                85                  90                  95
Ala Leu Thr Val Ser Ser Ile Cys
                100
```

```
<210> 5553
<211> 274
<212> DNA
<213> Homo sapiens
```

```
<400> 5553
ccatggatgg aggccagggt acttcaggac ctctgaagac agcaaagcag tttctggcaa
60
tctctgagga ggtggcattt gttccagaaa aaaggacccc ccaacccat cccacagcct
120
caccagaccc taaagtcaga ataaccggcc cagctacagc ccctgcggtc gtgcttagcc
180
actacagagg ctgctatttc cccagccagt gtccctggca gccttggaaa ccaatgaagc
240
```

4736

```
aggctctgac acaggaatcc ctctgcatct ttat
274


<210> 5554
<211> 90
<212> PRT
<213> Homo sapiens


<400> 5554
Met Asp Gly Gly Gln Gly Thr Ser Gly Pro Leu Lys Thr Ala Lys Gln
1               5                   10                  15
Phe Leu Ala Ile Ser Glu Glu Val Ala Phe Val Pro Glu Lys Arg Thr
                20                  25                  30
Pro Gln Pro His Pro Thr Ala Ser Pro Asp Pro Lys Val Arg Ile Thr
                35                  40                  45
Gly Pro Ala Thr Ala Pro Ala Val Val Leu Ser His Tyr Arg Gly Cys
        50                  55                  60
Tyr Phe Pro Ser Gln Cys Pro Trp Gln Pro Trp Lys Pro Met Lys Gln
65                  70                  75                  80
Ala Leu Thr Gln Glu Ser Leu Cys Ile Phe
                85                  90


<210> 5555
<211> 414
<212> DNA
<213> Homo sapiens


<400> 5555
acgcgtgtgt gcacgcaggc atgggctttc agggctttca gagcaggggc cgacggcatt
60
ctccctcggg ccagcggtca gatgtggggt tcaggaaaca aggcccaggt ggggatgaat
120
cacagggctg tgattctaga agggacagct gtgaggggcc gggacaggct aagctggagg
180
actcaccaga cttgcggggg tcaacacgct ccagatgtct cctagacctc tcacactcag
240
cacatccaaa cctgaaccca gcacctggcc ccacacctgt cccctggcta gagacggggg
300
cctcagccca gctgttcccc ttctcccaca gcctctcagc tgcgtgtcgg gtccattctg
360
catcttgaac atctctccca gtggattccc ttctgctgtc ctggtccagg atcc
414


<210> 5556
<211> 115
<212> PRT
<213> Homo sapiens


<400> 5556
Met Gly Phe Gln Gly Phe Gln Ser Arg Gly Arg Arg His Ser Pro Ser
1               5                   10                  15
Gly Gln Arg Ser Asp Val Gly Phe Arg Lys Gln Gly Pro Gly Gly Asp
                20                  25                  30
Glu Ser Gln Gly Cys Asp Ser Arg Arg Asp Ser Cys Glu Gly Pro Gly
```

```
        35                    40                    45
Gln Ala Lys Leu Glu Asp Ser Pro Asp Leu Arg Gly Ser Thr Arg Ser
        50                    55                    60
Arg Cys Leu Leu Asp Leu Ser His Ser Ala His Pro Asn Leu Asn Pro
65                    70                    75                    80
Ala Pro Gly Pro Thr Pro Val Pro Trp Leu Glu Thr Gly Ala Ser Ala
                    85                    90                    95
Gln Leu Phe Pro Phe Ser His Ser Leu Ser Ala Ala Cys Arg Val His
                    100                   105                   110
Ser Ala Ser
        115


<210> 5557
<211> 1970
<212> DNA
<213> Homo sapiens


<400> 5557
nnccgcggct gggccaaggc ccgcgatggt gatctgctgt gcggccgtga actgctccaa
60
ccggcaggga aagggcgaga agcgcgccgt ctccttccac aggttccccc taaaggactc
120
aaaacgtcta atccaatggt taaaagctgt tcagagggat aactggactc ccactaagta
180
ttcatttctc tgtagtgagc atttcaccaa agacagcttc tccaagaggc tggaggacca
240
gcatcgcctg ctgaagccca cggccgtgcc atccatcttc acctgaccg agaagaagag
300
gggggctgga ggccatggcc gcacccggag aaaagatgcc agcaagggca caggggtgt
360
gaggggacac tcgagtgccg ccaccgcgag aggagctgca ggttggtcac cgtcctcgag
420
tggaaacccg atggccaagc cagagtcccg caggttgaag caagctgctc tgcaaggtga
480
agccacaccc agggcggccc aggagcaggt ccgaaggagc aggcccagca agctcctgga
540
acggactcca ggagatggac tggccaccat ggtcgaggca gtcagggaaa agcagaagcg
600
tctgccacag atgctggcga tgagagcgcc acttcctcca tcgaagggggg cgtgacagat
660
aagagtggca tttctatgga tgactttacg ccccaggat ctggggcgtg caaatttatc
720
ggctcacttc attcgtacag tttctcctcc aagcacaccc gagaaaggcc atctgtcccc
780
cgagagccca ttgaccgcaa gaggctgaag aaagatgtgg aaccaagctg cagtgggagc
840
agcctgggac ccgacaaggg cctggcccag agccctccca gctcatcact taccgcgaca
900
cggcagaagc cttcccagag ccccctctgcc cctcctgccg acgtcacccc aaagccagcc
960
acggaagccg tgcagagcga gcacagcgac gccagcccca tgtccatcaa cgaggtcatc
1020
ctgtcggcgt caggggcctg caagctcatc gactcactgc actcctactg cttctcctcc
1080
```

cggcagaaca agagccaggt gtgctgcctg cgggagcagg tggagaagaa gaacggcgag
1140
ctgaagagcc tgcggcagag ggtcagccgc tccgacagcc aggtgcggaa gctacaggag
1200
aagctggatg agctgaggag agtgagcgtc ccctatccaa gtagcctgct gtcgcccagc
1260
cgcgagcccc ccaagatgaa cccagtggtg gagccactgt cctggatgct gggcacctgg
1320
ctgtcggacc cacctggagc cgggacctac cccacactgc agcccttcca gtacctggag
1380
gaggttcaca tctcccacgt gggccagccc atgctgaact tctcgttcaa ctccttccac
1440
ccggacacgc gcaagccgat gcacagagag tgtggcttca ttcgcctcaa gcccgacacc
1500
aacaaggtgg cctttgtcag cgcccagaac acaggcgtgg tggaagtgga ggagggcgag
1560
gtgaacgggc aggagctgtg catcgcatcc cactccatcg ccaggatctc cttcgccaag
1620
gagccccacg tagagcagat cacccggaag ttcaggctga attctgaagg caaacttgag
1680
cagacggtct ccatggcaac cacgacacag ccaatgactc agcatcttca cgtcacctac
1740
aagaaggtga ccccgtaaac ctagagcttc tggagccctc gggagggcct ggctactgtg
1800
cctcaacggt tcggctcctc aacagacagt ccctgcggca gaagtgggtg tggccgtgag
1860
cctctgcagg ctcaagagtg ttgtccagat gtttctgtac tggcatagaa aaaccaaata
1920
aaaggccttt atttttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1970

<210> 5558
<211> 360
<212> PRT
<213> Homo sapiens

<400> 5558
Met Asp Asp Phe Thr Pro Pro Gly Ser Gly Ala Cys Lys Phe Ile Gly
1   5   10   15
Ser Leu His Ser Tyr Ser Phe Ser Ser Lys His Thr Arg Glu Arg Pro
                20   25   30
Ser Val Pro Arg Glu Pro Ile Asp Arg Lys Arg Leu Lys Lys Asp Val
            35   40   45
Glu Pro Ser Cys Ser Gly Ser Ser Leu Gly Pro Asp Lys Gly Leu Ala
        50   55   60
Gln Ser Pro Pro Ser Ser Ser Leu Thr Ala Thr Arg Gln Lys Pro Ser
65   70   75   80
Gln Ser Pro Ser Ala Pro Pro Ala Asp Val Thr Pro Lys Pro Ala Thr
                85   90   95
Glu Ala Val Gln Ser Glu His Ser Asp Ala Ser Pro Met Ser Ile Asn
            100   105   110
Glu Val Ile Leu Ser Ala Ser Gly Ala Cys Lys Leu Ile Asp Ser Leu
        115   120   125
His Ser Tyr Cys Phe Ser Ser Arg Gln Asn Lys Ser Gln Val Cys Cys

4739

```
          130                   135                   140
Leu Arg Glu Gln Val Glu Lys Lys Asn Gly Glu Leu Lys Ser Leu Arg
145                   150                   155                   160
Gln Arg Val Ser Arg Ser Asp Ser Gln Val Arg Lys Leu Gln Glu Lys
                  165                   170                   175
Leu Asp Glu Leu Arg Arg Val Ser Val Pro Tyr Pro Ser Ser Leu Leu
              180                   185                   190
Ser Pro Ser Arg Glu Pro Pro Lys Met Asn Pro Val Val Glu Pro Leu
          195                   200                   205
Ser Trp Met Leu Gly Thr Trp Leu Ser Asp Pro Pro Gly Ala Gly Thr
      210                   215                   220
Tyr Pro Thr Leu Gln Pro Phe Gln Tyr Leu Glu Glu Val His Ile Ser
225                   230                   235                   240
His Val Gly Gln Pro Met Leu Asn Phe Ser Phe Asn Ser Phe His Pro
                  245                   250                   255
Asp Thr Arg Lys Pro Met His Arg Glu Cys Gly Phe Ile Arg Leu Lys
              260                   265                   270
Pro Asp Thr Asn Lys Val Ala Phe Val Ser Ala Gln Asn Thr Gly Val
          275                   280                   285
Val Glu Val Glu Glu Gly Glu Val Asn Gly Gln Glu Leu Cys Ile Ala
      290                   295                   300
Ser His Ser Ile Ala Arg Ile Ser Phe Ala Lys Glu Pro His Val Glu
305                   310                   315                   320
Gln Ile Thr Arg Lys Phe Arg Leu Asn Ser Glu Gly Lys Leu Glu Gln
                  325                   330                   335
Thr Val Ser Met Ala Thr Thr Thr Gln Pro Met Thr Gln His Leu His
              340                   345                   350
Val Thr Tyr Lys Lys Val Thr Pro
                  355                   360
```

<210> 5559
<211> 3866
<212> DNA
<213> Homo sapiens

<400> 5559

```
nnaattcgag gatccgggta ccatggcaca gagcgacaga gacatttatt gttatttgtt
60
ttttggtggc aaaaagggaa aatggcgaac gactcccctg caaaaagtct ggtggacatc
120
gacctctcct ccctgcggga tcctgctggg atttttgagc tggtggaagt ggttggaaat
180
ggcacctatg gacaagtcta taagggtcga catgttaaaa cgggtcagtt ggcagccatc
240
aaagttatgg atgtcactga ggatgaagag gaagaaatca aactggagat aaatatgcta
300
aagaaatact ctcatcacag aaacattgca acatattatg gtgctttcat caaaaagagc
360
cctccaggac atgatgacca actctggctt gttatggagt tctgtggggc tgggtccatt
420
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480
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<212> PRT
<213> Homo sapiens

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Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
        35   40   45
Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Glu Asp Glu Glu Glu
    50   55   60
Glu Ile Lys Leu Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65   70   75   80
Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Ser Pro Pro Gly
                85   90   95
His Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
            100   105   110
Ile Thr Asp Leu Val Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Asp
        115   120   125
Trp Ile Ala Tyr Ile Ser Arg Glu Ile Leu Arg Gly Leu Ala His Leu
    130   135   140
His Ile His His Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145   150   155   160
Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
                165   170   175
Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
            180   185   190
Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
        195   200   205
Thr Tyr Asp Tyr Arg Ser Asp Leu Trp Ser Cys Gly Ile Thr Ala Ile
    210   215   220
Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225   230   235   240
Ala Leu Phe Leu Ile Pro Arg Asn Pro Pro Pro Arg Leu Lys Ser Lys
                245   250   255
Lys Trp Ser Lys Lys Phe Ile Asp Phe Ile Asp Thr Cys Leu Ile Lys
            260   265   270
Thr Tyr Met Gln Arg Pro Thr Thr Glu Gln Leu Leu Lys Phe Pro Phe
        275   280   285
Ile Arg Asp Gln Pro Thr Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
    290   295   300
His Ile Asp Arg Thr Arg Lys Lys Arg Gly Glu Lys Glu Glu Thr Glu
305   310   315   320
Tyr Glu Tyr Ser Gly Ser Glu Glu Asp Asp Ser His Gly Glu Glu
                325   330   335
Gly Glu Pro Ser Ser Ile Met Asn Val Pro Gly Glu Ser Thr Leu Arg

4743

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      370                 375                 380
Glu Tyr Lys Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Gln
385                 390                 395                 400
Gln Lys Glu Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu Arg
              405                 410                 415
Glu Ala Arg Arg Gln Gln Glu Arg Glu Gln Arg Arg Arg Glu Gln Glu
          420                 425                 430
Glu Lys Arg Arg Leu Glu Glu Leu Glu Arg Arg Arg Lys Glu Glu Glu
          435                 440                 445
Glu Arg Arg Arg Ala Glu Glu Glu Lys Arg Arg Val Glu Arg Glu Gln
      450                 455                 460
Glu Tyr Ile Arg Arg Gln Leu Glu Glu Glu Gln Arg His Leu Glu Val
465                 470                 475                 480
Leu Gln Gln Gln Leu Leu Gln Glu Gln Ala Met Leu Leu His Asp His
              485                 490                 495
Arg Arg Pro His Pro Gln His Ser Gln Gln Pro Pro Pro Pro Gln Gln
          500                 505                 510
Glu Arg Ser Lys Pro Ser Phe His Ala Pro Glu Pro Lys Ala His Tyr
      515                 520                 525
Glu Pro Ala Asp Arg Ala Arg Glu Val Pro Val Arg Thr Thr Ser Arg
      530                 535                 540
Ser Pro Val Leu Ser Arg Arg Asp Ser Pro Leu Gln Gly Ser Gly Gln
545                 550                 555                 560
Gln Asn Ser Gln Ala Gly Gln Arg Asn Ser Thr Ser Ser Ile Glu Pro
              565                 570                 575
Arg Leu Leu Trp Glu Arg Val Glu Lys Leu Val Pro Arg Pro Gly Ser
          580                 585                 590
Gly Ser Ser Ser Gly Ser Ser Asn Ser Gly Ser Gln Pro Gly Ser His
          595                 600                 605
Pro Gly Ser Gln Ser Gly Ser Gly Glu Arg Phe Arg Val Arg Ser Ser
      610                 615                 620
Ser Lys Ser Glu Gly Ser Pro Ser Gln Arg Leu Glu Asn Ala Val Lys
625                 630                 635                 640
Lys Pro Glu Asp Lys Lys Glu Val Phe Arg Pro Leu Lys Pro Ala Gly
              645                 650                 655
Glu Val Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg Ala Val Glu Asp
          660                 665                 670
Val Arg Pro Pro His Lys Val Thr Asp Tyr Ser Ser Ser Ser Glu Glu
      675                 680                 685
Ser Gly Thr Thr Asp Glu Glu Asp Asp Asp Val Glu Gln Glu Gly Ala
      690                 695                 700
Asp Glu Ser Thr Ser Gly Pro Glu Asp Thr Arg Ala Ala Ser Ser Leu
705                 710                 715                 720
Asn Leu Ser Asn Gly Glu Thr Glu Ser Val Lys Thr Met Ile Val His
              725                 730                 735
Asp Asp Val Glu Ser Glu Pro Ala Met Thr Pro Ser Lys Glu Gly Thr
      740                 745                 750
Leu Ile Val Arg Gln Thr Gln Ser Ala Ser Ser Thr Leu Gln Lys His
      755                 760                 765
Lys Ser Ser Ser Ser Phe Thr Pro Phe Ile Asp Pro Arg Leu Leu Gln
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                                    4744

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Cys Asp Gly Met Arg Pro Glu Ala Ile Arg Gln Asp Pro Thr Arg Lys
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Gly Ser Val Val Asn Val Asn Pro Thr Asn Thr Arg Pro Gln Ser Asp
                820                     825                     830
Thr Pro Glu Ile Arg Lys Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu
        835                     840                     845
Cys Ala Ala Leu Trp Gly Val Asn Leu Leu Val Gly Thr Glu Ser Gly
    850                     855                     860
Leu Met Leu Leu Asp Arg Ser Gly Gln Gly Lys Val Tyr Pro Leu Ile
865                     870                     875                     880
Asn Arg Arg Arg Phe Gln Gln Met Asp Val Leu Glu Gly Leu Asn Val
                885                     890                     895
Leu Val Thr Ile Ser Gly Lys Lys Asp Lys Leu Arg Val Tyr Tyr Leu
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Ser Trp Leu Arg Asn Lys Ile Leu His Asn Asp Pro Glu Val Glu Lys
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Lys Gln Gly Trp Thr Thr Val Gly Asp Leu Glu Gly Cys Val His Tyr
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Lys Val Val Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala Leu Lys
945                     950                     955                     960
Ser Ser Val Glu Val Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe
                965                     970                     975
Met Ala Phe Lys Ser Phe Gly Glu Leu Val His Lys Pro Leu Leu Val
                980                     985                     990
Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile Tyr Gly Ser
        995                     1000                    1005
Cys Ala Gly Phe His Ala Val Asp Val Asp Ser Gly Ser Val Tyr Asp
    1010                    1015                    1020
Ile Tyr Leu Pro Thr His Val Arg Lys Asn Pro His Ser Met Ile Gln
1025                    1030                    1035                    1040
Cys Ser Ile Lys Pro His Ala Ile Ile Ile Leu Pro Asn Thr Asp Gly
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Met Glu Leu Leu Val Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr
                1060                    1065                    1070
Tyr Gly Arg Ile Thr Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro
        1075                    1080                    1085
Thr Ser Val Ala Tyr Ile Arg Ser Asn Gln Thr Met Gly Trp Gly Glu
        1090                    1095                    1100
Lys Ala Ile Glu Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val
1105                    1110                    1115                    1120
Phe Met His Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg Asn
                1125                    1130                    1135
Asp Lys Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln Val
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Tyr Phe Met Thr Leu Gly Arg Thr Ser Leu Leu Ser Trp
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<211> 2089
<212> DNA
<213> Homo sapiens

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4746

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2089

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<212> PRT
<213> Homo sapiens

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Asp Ser Asn Met Lys Arg Glu Gln Pro Arg Glu Arg Pro Arg Ala Trp
        35   40   45
Asp Tyr Pro His Gly Leu Val Gly Leu His Asn Ile Gly Gln Thr Cys
    50   55   60
Cys Leu Asn Ser Leu Ile Gln Val Phe Val Met Asn Val Asp Phe Thr
65   70   75   80
Arg Ile Leu Lys Arg Ile Thr Val Pro Arg Gly Ala Asp Glu Gln Arg
                85   90   95
Arg Ser Val Pro Phe Gln Met Leu Leu Leu Leu Glu Lys Met Gln Asp
            100   105   110
Ser Arg Gln Lys Ala Val Arg Pro Leu Glu Leu Ala Tyr Cys Leu Gln
            115   120   125
Lys Cys Asn Val Pro Leu Phe Val Gln His Asp Ala Ala Gln Leu Tyr
        130   135   140
Leu Lys Leu Trp Asn Leu Ile Lys Asp Gln Ile Thr Asp Val His Leu
145   150   155   160
Val Glu Arg Leu Gln Ala Leu Tyr Thr Ile Arg Val Lys Asp Ser Leu
                165   170   175
Ile Cys Val Asp Cys Ala Met Glu Ser Ser Arg Asn Ser Ser Met Leu
            180   185   190
Thr Leu Pro Leu Ser Leu Phe Asp Val Asp Ser Lys Pro Leu Lys Thr
            195   200   205
Leu Glu Asp Ala Leu His Cys Phe Phe Gln Pro Arg Glu Leu Ser Ser
        210   215   220
Lys Ser Lys Cys Phe Cys Glu Asn Cys Gly Lys Lys Thr Arg Gly Lys

4747

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Gln Val Leu Lys Leu Thr His Leu Pro Gln Thr Leu Thr Ile His Leu
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Met Arg Phe Ser Ile Arg Asn Ser Gln Thr Arg Lys Ile Cys His Ser
                260                    265                    270
Leu Tyr Phe Pro Gln Ser Leu Asp Phe Ser Gln Ile Leu Pro Met Lys
            275                    280                    285
Arg Glu Ser Cys Asp Ala Glu Glu Gln Ser Gly Gly Gln Tyr Glu Leu
        290                    295                    300
Phe Ala Val Ile Ala His Val Gly Met Ala Asp Ser Gly His Tyr Cys
305                    310                    315                    320
Val Tyr Ile Arg Asn Ala Val Asp Gly Lys Trp Phe Cys Phe Asn Asp
                325                    330                    335
Ser Asn Ile Cys Leu Val Ser Trp Glu Asp Ile Gln Cys Thr Tyr Gly
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Asn Pro Asn Tyr His Trp Gln Glu Thr Ala Tyr Leu Leu Val Tyr Met
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Lys Met Glu Cys
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<210> 5563
<211> 2878
<212> DNA
<213> Homo sapiens

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2400
cccctttcccc ccccaacagc tgctatgggg gggctaaatt atctctattt tgtagagagg
2460
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atctatattt gtaggggttc ggggcccagg ccgggtccct atctctgtgt ataaactgta
2520
cagaccgtgg ccgccctgcc tgtgtgtgtg tgtgtgcgcg cgcgcgcgcg tctgctccgt
2580
gtgttggtgg ctgtggccat ggctctgtgc ccaccagcat ctccctcctg agatgccggc
2640
ctctcatgct cccggagcgt ccgccaaccc cccgtgtcac ctcccttctg ttatcgctga
2700
cagctttctt gcgtctcatt tgtcgccgag ccccgagcgc acggtgatgc tcgggtctgc
2760
ccccgacccc ctgccacagg ccggaagccg caggggggcac cgtggggaag ctaacccggc
2820
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2878

<210> 5564
<211> 683
<212> PRT
<213> Homo sapiens

<400> 5564
Met Ala Ala Ala Val Ala Ala Pro Leu Ala Ala Gly Gly Glu Glu Ala
 1   5   10   15
Ala Ala Thr Thr Ser Val Pro Gly Ser Pro Gly Leu Pro Gly Arg Arg
            20   25   30
Ser Ala Glu Arg Ala Leu Glu Glu Ala Val Ala Thr Gly Thr Leu Asn
        35   40   45
Leu Ser Asn Arg Arg Leu Lys His Phe Pro Arg Gly Ala Ala Arg Ser
    50   55   60
Tyr Asp Leu Ser Asp Ile Thr Gln Ala Asp Leu Ser Arg Asn Arg Phe
65   70   75   80
Pro Glu Val Pro Glu Ala Ala Cys Gln Leu Val Ser Leu Glu Gly Leu
                85   90   95
Ser Leu Tyr His Asn Cys Leu Arg Cys Leu Asn Pro Ala Leu Gly Asn
            100   105   110
Leu Thr Ala Leu Thr Tyr Leu Asn Leu Ser Arg Asn Gln Leu Ser Leu
        115   120   125
Leu Pro Pro Tyr Ile Cys Gln Leu Pro Leu Arg Val Leu Ile Val Ser
    130   135   140
Asn Asn Lys Leu Gly Ala Leu Pro Pro Asp Ile Gly Thr Leu Gly Ser
145   150   155   160
Leu Arg Gln Leu Asp Val Ser Ser Asn Glu Leu Gln Ser Leu Pro Ser
                165   170   175
Glu Leu Cys Gly Leu Ser Ser Leu Arg Asp Leu Asn Val Arg Arg Asn
            180   185   190
Gln Leu Ser Thr Leu Pro Glu Glu Leu Gly Asp Leu Pro Leu Val Arg
        195   200   205
Leu Asp Phe Ser Cys Asn Arg Val Ser Arg Ile Pro Val Ser Phe Cys
    210   215   220
Arg Leu Arg His Leu Gln Val Ile Leu Leu Asp Ser Asn Pro Leu Gln
225   230   235   240
Ser Pro Pro Ala Gln Val Cys Leu Lys Gly Lys Leu His Ile Phe Lys
                245   250   255
Tyr Leu Ser Thr Glu Ala Gly Gln Arg Gly Ser Ala Leu Gly Asp Leu

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                   260                    265                    270
     Ala Pro Ser Arg Pro Pro Ser Phe Ser Pro Cys Pro Ala Glu Asp Leu
              275                    280                    285
     Phe Pro Gly His Arg Tyr Asp Gly Gly Leu Asp Ser Gly Phe His Ser
              290                    295                    300
     Val Asp Ser Gly Ser Lys Arg Trp Ser Gly Asn Glu Ser Thr Asp Glu
     305                    310                    315                    320
     Phe Ser Glu Leu Ser Phe Arg Ile Ser Glu Leu Ala Arg Glu Pro Arg
                       325                    330                    335
     Gly Pro Arg Glu Arg Lys Glu Asp Gly Ser Ala Asp Gly Asp Pro Val
                       340                    345                    350
     Gln Ile Asp Phe Ile Asp Ser His Val Pro Gly Glu Asp Glu Glu Arg
                       355                    360                    365
     Gly Thr Val Glu Glu Gln Arg Pro Pro Glu Leu Ser Pro Gly Ala Gly
              370                    375                    380
     Asp Arg Glu Arg Ala Pro Ser Ser Arg Arg Glu Glu Pro Ala Gly Glu
     385                    390                    395                    400
     Glu Arg Arg Arg Pro Asp Thr Leu Gln Leu Trp Gln Glu Arg Glu Arg
                       405                    410                    415
     Arg Gln Gln Gln Gln Ser Gly Ala Trp Gly Ala Pro Arg Lys Asp Ser
                       420                    425                    430
     Leu Leu Lys Pro Gly Leu Arg Ala Val Val Gly Gly Ala Ala Ala Val
              435                    440                    445
     Ser Thr Gln Ala Met His Asn Gly Ser Pro Lys Ser Ser Ala Ser Gln
              450                    455                    460
     Ala Gly Gly Cys Ser Gly Ala Gly Ser Pro Ala Pro Ala Pro Ala Ser
     465                    470                    475                    480
     Gln Glu Pro Leu Pro Ile Ala Gly Pro Ala Thr Ala Pro Ala Pro Arg
                       485                    490                    495
     Pro Leu Gly Ser Ile Gln Arg Pro Asn Ser Phe Leu Phe Arg Ser Ser
                       500                    505                    510
     Ser Gln Ser Gly Ser Gly Pro Ser Ser Pro Asp Ser Val Leu Arg Pro
              515                    520                    525
     Arg Arg Tyr Pro Gln Val Pro Asp Glu Lys Asp Leu Met Thr Gln Leu
              530                    535                    540
     Arg Gln Val Leu Glu Ser Arg Leu Gln Arg Pro Leu Pro Glu Asp Leu
     545                    550                    555                    560
     Ala Glu Ala Leu Ala Ser Gly Val Ile Leu Cys Gln Leu Ala Asn Gln
                       565                    570                    575
     Leu Arg Pro Arg Ser Val Pro Phe Ile His Val Pro Ser Pro Ala Val
              580                    585                    590
     Pro Lys Leu Ser Ala Leu Lys Ala Arg Lys Asn Val Glu Ser Phe Leu
              595                    600                    605
     Glu Ala Cys Arg Lys Met Gly Val Pro Glu Ala Asp Leu Cys Ser Pro
              610                    615                    620
     Ser Asp Leu Leu Gln Gly Thr Ala Arg Gly Leu Arg Thr Ala Leu Glu
     625                    630                    635                    640
     Ala Val Lys Arg Val Gly Gly Lys Ala Leu Pro Pro Leu Trp Pro Pro
                       645                    650                    655
     Ser Gly Leu Gly Gly Phe Val Val Phe Tyr Val Val Leu Met Leu Leu
                       660                    665                    670
     Leu Tyr Val Thr Tyr Thr Arg Leu Leu Gly Ser
              675                    680
```

<210> 5565
<211> 472
<212> DNA
<213> Homo sapiens

<400> 5565
nggatccaaa cgccgtggcc gcgggcccgc gcccgggcag acccgggctc cgctctcacg
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tcacgcggta catgggctac agttccttgt ccgagggctt ccgggagctg gagccgcaca
120
gaatgaaggg gctcactggt agtggttccc aacttcgttg catattaaac cccccggaga
180
acttaaactc cagtgcccag tcctatgcaa tcagatcctg ggtctccact gtgcagcgcc
240
cgtggagagc cagcgatgtg gagggtcgag atcacccagt tctttgggga cagggtctca
300
ctgcccccaa ggctggagtc cggtggtgca atcacggctc acagcagtct cgacctccag
360
ggctcaagcg atcctccagc ctcagcctcc cgagcagctg ggagcacagg cgcataccac
420
gcgtggcttt tttgagacga gggcttgcca tgtttcccag gctggtctcg aa
472

<210> 5566
<211> 76
<212> PRT
<213> Homo sapiens

<400> 5566
Met Gln Ser Asp Pro Gly Ser Pro Leu Cys Ser Ala Arg Gly Glu Pro
 1   5   10   15
Ala Met Trp Arg Val Glu Ile Thr Gln Phe Phe Gly Asp Arg Val Ser
                20   25   30
Leu Pro Pro Arg Leu Glu Ser Gly Gly Ala Ile Thr Ala His Ser Ser
            35   40   45
Leu Asp Leu Gln Gly Ser Ser Asp Pro Pro Ala Ser Ala Ser Arg Ala
        50   55   60
Ala Gly Ser Thr Gly Ala Tyr His Ala Trp Leu Phe
65   70   75

<210> 5567
<211> 968
<212> DNA
<213> Homo sapiens

<400> 5567
tttttttttt tttttttttt taggttccaa taaaatttta tttatgaaca ctaaaatttg
60
aatttcatat gcttttctca tgccacaaaa tattattctt ttgattgtat tcaacctttt
120
taaaaaccat ttttagctca caagctgtac aaaaacagac ggtgagtaaa ttggcccaca
180
gaccggtttg ctagcccctg ggcttaagag atctgtccac ttactcctca acatgcagag
240

4752

tgtgaactgt gtgaactgca taggccacag caatcttact gcatccattc ccgctgcatc
300
attatttttg atttgtattc attcagtcca ccgaagcatt cacttggcac ctctccaaat
360
ctgggtactg tgcaagatcc ttccttggga cactgaagga aaatcagaca cggcccttct
420
ctcaagttcg cagactctcc ggtatccaga tactacggct ctcatagtat cagaaaacac
480
agccacaagc gcaggtaagt atcagaggtg ttttacgaga tacatgtatc agattcttaa
540
ggctgctgta ccaaaatacc acaaactgca tggcttaaaa aacagaaat ttattccctc
600
acaatcctgg aggccagatg tctgaaatca agatattggt agggttggtt ccttctcgag
660
actctgaggg agaatctgtg acatgcctgt tttcctagct tctagtgact tcctccaatt
720
cttagggttc tttggctcat agatgcattg ctctaatctc tgcctccatc ttcccatggc
780
cttcagctct gtgtgtctat ttccccttct tttctaagag ctagtcattg aatttagggc
840
ccaccctact acaggttgat ctcatttcca ggtccttgat ttcatctgca aaaacttttt
900
ccaaataatg tcacacgtgg agattcccag tgaatgtatc tcctgggggc cactattcag
960
cctattac
968

<210> 5568
<211> 130
<212> PRT
<213> Homo sapiens

<400> 5568
Met Gln Ser Val Asn Cys Val Asn Cys Ile Gly His Ser Asn Leu Thr
 1   5   10   15
Ala Ser Ile Pro Ala Ala Ser Leu Phe Leu Ile Cys Ile His Ser Val
                20   25   30
His Arg Ser Ile His Leu Ala Pro Leu Gln Ile Trp Val Leu Cys Lys
            35   40   45
Ile Leu Pro Trp Asp Thr Glu Gly Lys Ser Asp Thr Ala Leu Leu Ser
        50   55   60
Ser Ser Gln Thr Leu Arg Tyr Pro Asp Thr Thr Ala Leu Ile Val Ser
65   70   75   80
Glu Asn Thr Ala Thr Ser Ala Gly Lys Tyr Gln Arg Cys Phe Thr Arg
                85   90   95
Tyr Met Tyr Gln Ile Leu Lys Ala Ala Val Pro Lys Tyr His Lys Leu
                100   105   110
His Gly Leu Lys Gln Gln Lys Phe Ile Pro Ser Gln Ser Trp Arg Pro
            115   120   125
Asp Val
    130

<210> 5569
<211> 876

4753

<212> DNA
<213> Homo sapiens

<400> 5569
nnttttttttt tttttttttt ttgttaacct agagaaaaaa attttattta aagacacatt
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ttaagtaaaa tgaagaacat tttacttatt tttatgtcca gtacagtcaa agcagccaca
120
ttgcataacc ccgggggacc cccttcctct ttgtgatgcc ccagaacaat attgatttga
180
ttatagaaag ccaccggcag cctacatgcg caacggtgag ttgttggtta tatacactgt
240
ggaccataca gtggaatatt acagtcaata aaaggtattt ttagagagaa aaaaaaacat
300
tggaacacgc ttatgatata atgttaggca aaatcgctgt tatgaacagc tcgtttgggg
360
cagagcaaat cctgggaagt aacgctgagg ctgttggtgc aggcggtgga gtacaacatc
420
ttcgagggta tggagtgcca cggctcccca ctagtggtca tcagccaggg caagatcgtc
480
tttgaagacg gaaacatcaa cgtcaacaag ggcatgggcc gcttcattcc gcggaaggcg
540
ttcccggagc acagttccac gtggctggaa cttcacaatc atggcagaag gcacgtctgc
600
gaggcatcct ggggctgcac tgctgatcct cttctctctc ccctggccct gagtgctgcc
660
ttcatgtggc tcagcccttc cgtccttcaa gccttcatca gcttcagggc agccccgagt
720
ctgtgcccag gtacactggc taaaatgcag tgtcttccaa atagccatat ctctttttaat
780
cagggagcaa ttccagcatg gaagtcccca tcatgctcct gctggcaggt acaggtgcca
840
gtttgtgacg gatgaaagca ccgacagccc acgcgt
876

<210> 5570
<211> 169
<212> PRT
<213> Homo sapiens

<400> 5570
Thr Ala Arg Leu Gly Gln Ser Lys Ser Trp Glu Val Thr Leu Arg Leu
 1   5   10   15
Leu Val Gln Ala Val Glu Tyr Asn Ile Phe Glu Gly Met Glu Cys His
                20   25   30
Gly Ser Pro Leu Val Val Ile Ser Gln Gly Lys Ile Val Phe Glu Asp
             35   40   45
Gly Asn Ile Asn Val Asn Lys Gly Met Gly Arg Phe Ile Pro Arg Lys
         50   55   60
Ala Phe Pro Glu His Ser Ser Thr Trp Leu Glu Leu His Asn His Gly
65   70   75   80
Arg Arg His Val Cys Glu Ala Ser Trp Gly Cys Thr Ala Asp Pro Leu
                    85   90   95
Leu Ser Pro Leu Ala Leu Ser Ala Ala Phe Met Trp Leu Ser Pro Ser

                                  4754

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              100                 105                 110
Val Leu Gln Ala Phe Ile Ser Phe Arg Ala Ala Pro Ser Leu Cys Pro
        115                 120                 125
Gly Thr Leu Ala Lys Met Gln Cys Leu Pro Asn Ser His Ile Ser Phe
    130                 135                 140
Asn Gln Gly Ala Ile Pro Ala Trp Lys Ser Pro Ser Cys Ser Cys Trp
145                 150                 155                 160
Gln Val Gln Val Pro Val Cys Asp Gly
                165


<210> 5571
<211> 405
<212> DNA
<213> Homo sapiens


<400> 5571
aaccagaaag tggatctctt cagcctggga attatcttct ttgagatgtc ctatcacccc
60
atggtcacgg cttcagaaag gatctttgtt ctcaaccaac tcagagatcc cacttcgcct
120
aagtttccag aagactttga cgatggagag catgcaaagc agaaatcagt catctcctgg
180
ctgttgaacc acgatccagc aaaacggccc acagccacag aactgctcaa gagtgagctg
240
ctgcccccac cccagatgga ggagtcagag ctgcatgaag tgctgcacca cacgctgacc
300
aacgtggatg ggaaggccta ccgcaccatg atggcccaga tcttctcgca gcgcctcgct
360
ggggcggggg gaggtggcta ccgctcccgg cttggcgtcc cgcgg
405


<210> 5572
<211> 135
<212> PRT
<213> Homo sapiens


<400> 5572
Asn Gln Lys Val Asp Leu Phe Ser Leu Gly Ile Ile Phe Phe Glu Met
  1               5                  10                  15
Ser Tyr His Pro Met Val Thr Ala Ser Glu Arg Ile Phe Val Leu Asn
            20                  25                  30
Gln Leu Arg Asp Pro Thr Ser Pro Lys Phe Pro Glu Asp Phe Asp Asp
            35                  40                  45
Gly Glu His Ala Lys Gln Lys Ser Val Ile Ser Trp Leu Leu Asn His
        50                  55                  60
Asp Pro Ala Lys Arg Pro Thr Ala Thr Glu Leu Leu Lys Ser Glu Leu
65                  70                  75                  80
Leu Pro Pro Pro Gln Met Glu Glu Ser Glu Leu His Glu Val Leu His
                85                  90                  95
His Thr Leu Thr Asn Val Asp Gly Lys Ala Tyr Arg Thr Met Met Ala
            100                 105                 110
Gln Ile Phe Ser Gln Arg Leu Ala Gly Ala Gly Gly Gly Gly Tyr Arg
        115                 120                 125
Ser Arg Leu Gly Val Pro Arg
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        130                    135
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<210> 5573
<211> 1279
<212> DNA
<213> Homo sapiens

<400> 5573
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cctccagaca gtaccacagg cacctggagt accggcatcg gtcgctgtgg cccccgagtg
120
tccgtcagag cctaggggag cctgccctcc cgcgcctcgt cggggcccgg ccaggcacct
180
tggccgccgg cgcacggacg cgggcacgag cactagatca cggctgctgg acctcggcac
240
gttgacaaga tttctctggg gtaccgcgga ggattacttt gaatttcggt ggtcgcctgt
300
ggtctggcat atttagaact taagtctatt atttcgggca ccatgacttt gaggctttta
360
gaagactggt gcaggggat ggacatgaac cctcggaaag cgctattgat tgccggcatc
420
tcccagagct gcagtgtggc agaaatcgag gaggctctgc aggctggttt agctcccttg
480
ggggagtaca gactgcttgg aaggatgttc aggagggatg agaacaggaa agtagcctta
540
gtagggctta ctgcggagac tagtcacgcc ctggtcccta aggagatacc gggaaaaggg
600
ggtatctgga gagtgatctt taagccccct gacccagata atacatttt aagcagatta
660
aatgaattt tagcgggaga gggcatgaca gtgggtgagt tgagcagagc tcttggacat
720
gaaaatggct ccttagaccc agagcagggc atgatcccgg aaatgtgggc ccctatgttg
780
gcacaggcat tagaggctct tcagcctgcc ctgcaatgct tgaagtataa aaagctgaga
840
gtgttctcgg gcagggagtc tccagaacca ggagaagaag aatttggacg ctggatgttt
900
catactactc agatgataaa ggcgtggcag gtgccagatg tagagaagag aaggcgattg
960
ctagagagcc ttcgaggccc agcacttgat gttattcgtg tcctcaagat aaacaatcct
1020
ttaattactg tcgatgaatg tctgcaggct cttgaggagg tatttggggt tacagataat
1080
cctaggggagt tgcaggtcaa atatctaacc acttaccaga aggatgagga aaagttgtcg
1140
gcttatgtac taaggctgga gcctttgtta cagaagctgg tacagagagg agcaattgag
1200
agagatgctg tgaatcaggc ccgcctagac caagtcattg ctggggcagt ccacaaaaca
1260
attcgcagag agcttaata
1279

<210> 5574
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<211> 312
<212> PRT
<213> Homo sapiens

<400> 5574
Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn
 1               5                   10                  15
Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val
            20                  25                  30
Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu
        35                  40                  45
Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val
    50                  55                  60
Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys
65                  70                  75                  80
Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro
                85                  90                  95
Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly
            100                 105                 110
Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn
        115                 120                 125
Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro
    130                 135                 140
Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu
145                 150                 155                 160
Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro
                165                 170                 175
Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile
                180                 185                 190
Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu
            195                 200                 205
Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn
    210                 215                 220
Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val
225                 230                 235                 240
Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr
                245                 250                 255
Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu
            260                 265                 270
Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp
            275                 280                 285
Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His
    290                 295                 300
Lys Thr Ile Arg Arg Glu Leu Asn
305                 310

<210> 5575
<211> 2405
<212> DNA
<213> Homo sapiens

<400> 5575
ctctaatccc ctttcttgac tcttccaagt caggattctc accaaggaag ctatctgcct
60

4757

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tctttgggaa tgttgggctt atgaagactt gagataatgg ggttcatgta ttcagactct
120
ttagcatata cagtagagtt tctaatgttg tcagcattcc ctagtgggcg gttacaagtt
180
aggttgggat tctaatcata ttttatgata tctcacagat taaattgcac tttgtctctg
240
cccagtcttg attcccttt ggccagcagt ttttaggtct gtcagtactg cactgcaaga
300
atggcagatt ttgggatctc tgctggccag tttgtggcag tggtctggga taagtcatcc
360
ccagtggagg ctctgaaagg tctggtggat aagcttcaag cgttaaccgg caatgagggc
420
cgcgtgtctg tggaaaacat caagcagctg ttgcaatgtt tagtcccagg aagcaccact
480
ctgcacagtg ctgagatttt ggctgaaatc gcccggatcc ttcggcctgg tggatgtctt
540
tttctgaagg agccagtaga gacagctgta gataacaata gcaaagtgaa gacagcatct
600
aagctgtgtt cagccctgac tctttctggt cttgtggaag tgaaagagct gcagcgggag
660
cccctaaccc ctgaggaagt acagtctgtt cgagaacacc ttggtcatga aagtgacaac
720
ctgctgtttg ttcagatcac aggcaaaaaa ccaaactttg aagtgggttc ttctaggcag
780
cttaagcttt ccatcaccaa gaagtcttct ccttcagtga aacctgctgt ggaccctgct
840
gctgccaagc tgtggaccct ctcagccaac gatatggagg acgacagcat gtgcatcttc
900
tgtggatgta gtttaactca ccgttggcct cttgagcatg tggtcaggtt gaacatgatg
960
atcaaccaaa aggaggacag ggtggacacc ttctttaccc tggactccaa gtttcctctc
1020
gaagcctgca gtcactttag cttttcatta gcagagacca cgactgtatc actcattgct
1080
ttgaacactc tccaggatct cattgactca gatgagctgc tggatccaga agatttgaag
1140
aagccagatc cagcttccct gcgggctgct tcttgtgggg aagggaaaaa gaggaaggcc
1200
tgtaagaact gcacctgtgg ccttgctgaa gaactggaaa aagagaagtc aagggaacag
1260
atgagctccc aacccaagtc agcttgtgga aactgctacc tgggcgatgc cttccgctgt
1320
gccagctgcc cctaccttgg gatgccagcc ttcaaacctg gggaaaaggt gcttctgagt
1380
gatagcaatc ttcatgatgc ctaggaggtt cctgacatgg gacccatctg ctcctccagc
1440
caactcctgt ccctcacatc ccaccatggt ggctcctccc acctcctctg gatttgttca
1500
ctctgagatc tgtttgcaga gtgggtgctt agcagacaga gtgaagctgg ctggggggca
1560
cagtggtgtg tagtgctgct gtgtatcaaa agaccaaggt attatgggac ctggtttcag
1620
aatgggatgg gtttcttcac ctcatgttaa gagaagggag tgtgtcctga agaagccctt
1680
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4758

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cttctgatgt taaaatgctg accagaacgc tcttgagccc aggcatcgtt gagcattaac
1740
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1800
cttgtctttc agagttgtta gtttactcca ttctttgtga cacgagtcaa gtggctcaca
1860
acctcctcag ggcaccagag gactcactca ctggttgctg tgatgatatc cagtgtccct
1920
ctgccccctt ccatccccaa ccacatttga ctgtagcatt gcatctgtgt cctgttgtca
1980
tttatgttaa ccttcaggta ttaaacttgc tgcatatctt gacatatctt gagattctgc
2040
atgtcttgta aagagagggg atgtgcattt gtgtgtgatg ttggatagtc atccacgctc
2100
agtttggacc attggaggaa cttagtgtca cgcacaaatg gggctattcc tacgcttaga
2160
atagggcttg tctgcccact ttagaagagt ccaggttggt gagcatttag agggaagcag
2220
ggcagaactc tgaacgacaa tacgtctctc tgagcagaga cccctttgtt cttgttatcc
2280
acccatatgg acttggaatc aatcttgcca aatatttgga gagattgtgt ggatttaaga
2340
gacctggatt tttatatttt accagtaaat aaaagttttc attgatatct gtccttgaaa
2400
cttga
2405


<210> 5576
<211> 367
<212> PRT
<213> Homo sapiens

<400> 5576
Met Ala Asp Phe Gly Ile Ser Ala Gly Gln Phe Val Ala Val Val Trp
1               5                   10                  15
Asp Lys Ser Ser Pro Val Glu Ala Leu Lys Gly Leu Val Asp Lys Leu
            20                  25                  30
Gln Ala Leu Thr Gly Asn Glu Gly Arg Val Ser Val Glu Asn Ile Lys
        35                  40                  45
Gln Leu Leu Gln Cys Leu Val Pro Gly Ser Thr Thr Leu His Ser Ala
    50                  55                  60
Glu Ile Leu Ala Glu Ile Ala Arg Ile Leu Arg Pro Gly Gly Cys Leu
65                  70                  75                  80
Phe Leu Lys Glu Pro Val Glu Thr Ala Val Asp Asn Asn Ser Lys Val
                85                  90                  95
Lys Thr Ala Ser Lys Leu Cys Ser Ala Leu Thr Leu Ser Gly Leu Val
            100                 105                 110
Glu Val Lys Glu Leu Gln Arg Glu Pro Leu Thr Pro Glu Glu Val Gln
        115                 120                 125
Ser Val Arg Glu His Leu Gly His Glu Ser Asp Asn Leu Leu Phe Val
    130                 135                 140
Gln Ile Thr Gly Lys Lys Pro Asn Phe Glu Val Gly Ser Ser Arg Gln
145                 150                 155                 160
Leu Lys Leu Ser Ile Thr Lys Lys Ser Ser Pro Ser Val Lys Pro Ala
```

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                     165                    170                   175
    Val Asp Pro Ala Ala Ala Lys Leu Trp Thr Leu Ser Ala Asn Asp Met
                 180                    185                   190
    Glu Asp Asp Ser Met Cys Ile Phe Cys Gly Cys Ser Leu Thr His Arg
             195                    200                   205
    Trp Pro Leu Glu His Val Val Arg Leu Asn Met Met Ile Asn Gln Lys
         210                    215                   220
    Glu Asp Arg Val Asp Thr Phe Phe Thr Leu Asp Ser Lys Phe Pro Leu
    225                    230                    235                   240
    Glu Ala Cys Ser His Phe Ser Phe Ser Leu Ala Glu Thr Thr Thr Val
                     245                    250                   255
    Ser Leu Ile Ala Leu Asn Thr Leu Gln Asp Leu Ile Asp Ser Asp Glu
                 260                    265                   270
    Leu Leu Asp Pro Glu Asp Leu Lys Lys Pro Asp Pro Ala Ser Leu Arg
             275                    280                   285
    Ala Ala Ser Cys Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys
         290                    295                   300
    Thr Cys Gly Leu Ala Glu Glu Leu Glu Lys Glu Lys Ser Arg Glu Gln
    305                    310                    315                   320
    Met Ser Ser Gln Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp
                 325                    330                   335
    Ala Phe Arg Cys Ala Ser Cys Pro Tyr Leu Gly Met Pro Ala Phe Lys
             340                    345                   350
    Pro Gly Glu Lys Val Leu Leu Ser Asp Ser Asn Leu His Asp Ala
             355                    360                   365


    <210> 5577
    <211> 659
    <212> DNA
    <213> Homo sapiens

    <400> 5577
    ctccacgcag ataagctgtg gttctgctgc ctgtccccca accacaagct gctgcagtac
    60
    ggagacatgg aggagggcng ccagcccgcc taccctnngg agagtctgcc cgagcaactc
    120
    cctgtggccg acatgagggc actcctgaca ggcaaggact gcccccatgt ccgggagaag
    180
    ggctccggga agcagaacaa ggacctctat gagttggcct tctcaatcag ctatgaccgt
    240
    ggggaggagg aagcgtacct caacttcatt gccccctcca agcgggagtt ctacctgtgg
    300
    acagatgggc tcagtgcctt gctgggcagt cccatgggca gcgagcagac acggctggac
    360
    ctggagcagc tgctgaccat ggagaccaag ctgcgtctgc tggagctgga gaacgtgccc
    420
    atccccgagc ggccaccccc tgtgcccca cccccacca acttcaactt ctgctatgac
    480
    tgcagcatcg ctgaaccttg acagtgtggc tggccatggg ccacagctgc ggccactgca
    540
    gcagccatga agggcagtgg gtagaggagt gcaggcaccc tgaccagcag agattgctgc
    600
    agaaataaag tctgcttggc tcttgggaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa
    659
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4760

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<210> 5578
<211> 166
<212> PRT
<213> Homo sapiens

<400> 5578
Leu His Ala Asp Lys Leu Trp Phe Cys Cys Leu Ser Pro Asn His Lys
 1               5                  10                  15
Leu Leu Gln Tyr Gly Asp Met Glu Glu Gly Xaa Gln Pro Ala Tyr Pro
            20                  25                  30
Xaa Glu Ser Leu Pro Glu Gln Leu Pro Val Ala Asp Met Arg Ala Leu
        35                  40                  45
Leu Thr Gly Lys Asp Cys Pro His Val Arg Glu Lys Gly Ser Gly Lys
    50                  55                  60
Gln Asn Lys Asp Leu Tyr Glu Leu Ala Phe Ser Ile Ser Tyr Asp Arg
65                  70                  75                  80
Gly Glu Glu Glu Ala Tyr Leu Asn Phe Ile Ala Pro Ser Lys Arg Glu
                85                  90                  95
Phe Tyr Leu Trp Thr Asp Gly Leu Ser Ala Leu Leu Gly Ser Pro Met
            100                 105                 110
Gly Ser Glu Gln Thr Arg Leu Asp Leu Glu Gln Leu Leu Thr Met Glu
        115                 120                 125
Thr Lys Leu Arg Leu Leu Glu Leu Glu Asn Val Pro Ile Pro Glu Arg
    130                 135                 140
Pro Pro Pro Val Pro Pro Pro Pro Thr Asn Phe Asn Phe Cys Tyr Asp
145                 150                 155                 160
Cys Ser Ile Ala Glu Pro
                165

<210> 5579
<211> 1312
<212> DNA
<213> Homo sapiens

<400> 5579
actcctgtat caaccatgag ttcttctcag cctgtgtcac gaccattgca acccatacaa
60
ccagcaccgc ctcttcaacc atctggggtg ccaacaagtg gaccatctca gaccaccata
120
cacttactac ctacagctcc aactaccgtg aatgtaacac atcgtccagt aactcaggtg
180
accacaagac tccctgtacc aagagctcct gcaaaccacc aggtggttta tacaactctt
240
cctgcaccac cagctcaggc tcccttgcga ggaactgtta tgcaggctcc tgctgttcgg
300
caggtcaatc cccaaaatag tgttacagtt cgagtgcctc aaacaaccac atatgttgta
360
aacaatggac taaccctggg atcaacagga cctcagctca cagtgcatca ccgaccacca
420
caagtgcata ctgagccccc acgccccgtg cacccagcac ccttaccaga agctccacaa
480
ccacagcgtc tgcccccaga agctgccagc acatctctgc ctcagaagcc acacttgaag
540
```

ttagcacgcg ttcagagtca aaatggcata gtactgtcat ggagtgtcct ggaggtggat
600
cgaagctgtg ccactgttga tagctaccat ctctatgctt accatgagga acccagtgcc
660
actgtgccct cacaatggaa aaagattggg gaagtcaagg cacttccctt gcccatggca
720
tgtactctca cccagtttgt atctggtagc aaatactact ttgcagtacg agccaaggat
780
atttatggac gttttgggcc tttctgtgat cctcagtcaa cagatgtgat ctcttctacc
840
cagagcagtt aaaccttgga gcctttatat tttcctcttt taaaatttcc accttttggt
900
cttgttttta atcttgtgca tgatacccca tgtaaaatcc accttgtgca agatttcttg
960
gacagatgtg tgtatacact acatttgttt ataaccagaa gcaaataaa ctcagcccac
1020
aaagctagaa tcttttcctg gacagtttag gctttggggt ttggaaatgt aaatgtgtac
1080
cttgctttag ttttgaggct ggggaatatg tgtgggtgtt tatgtgtgtt tttccttatg
1140
taggtgttat tgcattggag tctcccattt tcattctcaa atttacctct taaagtacga
1200
agtaagtaga tcaaaggatt tgagatgtgt aactggcatg attctgcttt tgaaggatct
1260
atagtatcat tttagttaag tgggtcaaac agaatcaaaa caaaacccaa ag
1312

<210> 5580
<211> 283
<212> PRT
<213> Homo sapiens

<400> 5580
Thr Pro Val Ser Thr Met Ser Ser Ser Gln Pro Val Ser Arg Pro Leu
 1   5   10   15
Gln Pro Ile Gln Pro Ala Pro Pro Leu Gln Pro Ser Gly Val Pro Thr
             20   25   30
Ser Gly Pro Ser Gln Thr Thr Ile His Leu Leu Pro Thr Ala Pro Thr
         35   40   45
Thr Val Asn Val Thr His Arg Pro Val Thr Gln Val Thr Thr Arg Leu
     50   55   60
Pro Val Pro Arg Ala Pro Ala Asn His Gln Val Val Tyr Thr Thr Leu
65   ·   70   75   80
Pro Ala Pro Pro Ala Gln Ala Pro Leu Arg Gly Thr Val Met Gln Ala
                 85   90   95
Pro Ala Val Arg Gln Val Asn Pro Gln Asn Ser Val Thr Val Arg Val
                 100   105   110
Pro Gln Thr Thr Thr Tyr Val Val Asn Asn Gly Leu Thr Leu Gly Ser
             115   120   125
Thr Gly Pro Gln Leu Thr Val His His Arg Pro Pro Gln Val His Thr
         130   135   140
Glu Pro Pro Arg Pro Val His Pro Ala Pro Leu Pro Glu Ala Pro Gln
145   150   155   160
Pro Gln Arg Leu Pro Pro Glu Ala Ala Ser Thr Ser Leu Pro Gln Lys

4762

```
                    165                    170                   175
    Pro His Leu Lys Leu Ala Arg Val Gln Ser Gln Asn Gly Ile Val Leu
                180                    185                   190
    Ser Trp Ser Val Leu Glu Val Asp Arg Ser Cys Ala Thr Val Asp Ser
            195                    200                   205
    Tyr His Leu Tyr Ala Tyr His Glu Glu Pro Ser Ala Thr Val Pro Ser
        210                    215                   220
    Gln Trp Lys Lys Ile Gly Glu Val Lys Ala Leu Pro Leu Pro Met Ala
    225                    230                   235                   240
    Cys Thr Leu Thr Gln Phe Val Ser Gly Ser Lys Tyr Tyr Phe Ala Val
                245                    250                   255
    Arg Ala Lys Asp Ile Tyr Gly Arg Phe Gly Pro Phe Cys Asp Pro Gln
                260                    265                   270
    Ser Thr Asp Val Ile Ser Ser Thr Gln Ser Ser
                275                    280
```

<210> 5581
<211> 720
<212> DNA
<213> Homo sapiens

<400> 5581
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accgtggaaa ccgcggccat ggcggcaccg cggcaaatcc ccagccacat agtgcgcctc
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aagcccagct gctctacaga ctcgtcgttc acccggacgc cggtgcccac cgtgtctctc
120
gcgtcccgcg agctgcctgt ctcgtcgtgg caggtcaccg agccgtcaag caagaatctg
180
tgggagcaga tctgcaagga gtatgaagct gagcagcctc cctttccaga aggatataaa
240
gtcaaacagg agcctgtgat tacggttgcg ccagtagagg aaatgctttt tcatggcttc
300
agtgcagagc actattttcc ggtttcccat ttcaccatga tctcacgtac accctgtcct
360
caagataaat cggaaacaat caacccaaaa acatgttctc ccaaagaata tttggaaact
420
ttcatctttc ctgttctgct tcccggaatg gctagcctgc ttcaccaagc gaagaaagaa
480
aaatgttttg aggtcagttg tttggcagga tttctttatt ttgagattct caatcattca
540
ttattatcag atgatagctc attatcttgg taccatcagg ttgttctcca gatgacccct
600
tcgggaggga aagcctgtgt ttggggtcac ttacccagtt ccagccacac catctagttg
660
tgcacataca tgcgctgcca tctgtctggc cacttggact ccggagagct tttccgcctt
720
```

<210> 5582
<211> 212
<212> PRT
<213> Homo sapiens

<400> 5582
Met Ala Ala Pro Arg Gln Ile Pro Ser His Ile Val Arg Leu Lys Pro

4763

```
   1                  5                    10                   15
Ser Cys Ser Thr Asp Ser Ser Phe Thr Arg Thr Pro Val Pro Thr Val
                20                      25                   30
Ser Leu Ala Ser Arg Glu Leu Pro Val Ser Ser Trp Gln Val Thr Glu
            35                      40                   45
Pro Ser Ser Lys Asn Leu Trp Glu Gln Ile Cys Lys Glu Tyr Glu Ala
        50                      55                   60
Glu Gln Pro Pro Phe Pro Glu Gly Tyr Lys Val Lys Gln Glu Pro Val
65                      70                   75                   80
Ile Thr Val Ala Pro Val Glu Glu Met Leu Phe His Gly Phe Ser Ala
                85                      90                   95
Glu His Tyr Phe Pro Val Ser His Phe Thr Met Ile Ser Arg Thr Pro
                100                     105                  110
Cys Pro Gln Asp Lys Ser Glu Thr Ile Asn Pro Lys Thr Cys Ser Pro
            115                     120                  125
Lys Glu Tyr Leu Glu Thr Phe Ile Phe Pro Val Leu Leu Pro Gly Met
            130                     135                  140
Ala Ser Leu Leu His Gln Ala Lys Lys Glu Lys Cys Phe Glu Val Ser
145                     150                     155                  160
Cys Leu Ala Gly Phe Leu Tyr Phe Glu Ile Leu Asn His Ser Leu Leu
                165                     170                  175
Ser Asp Asp Ser Ser Leu Ser Trp Tyr His Gln Val Val Leu Gln Met
            180                     185                  190
Thr Pro Ser Gly Gly Lys Ala Cys Val Trp Gly His Leu Pro Ser Ser
            195                     200                  205
Ser His Thr Ile
        210
```

```
<210> 5583
<211> 2101
<212> DNA
<213> Homo sapiens
```

```
<400> 5583
nnaggccgcg actgcgtgct gctgcaagag gactttctgg cgcacagggg ccgaccccac
60
gtctacctgc agcgcatcca gctcaacaac cccacggagc gcgtggccgc gctgcagact
120
gtggggccca ctgccggccc agcccccaat gccttcacca gtaccctgga gaaggtcgga
180
gaccatcagt tcctcctcta ctcaggccgg tccccgccta cgcccactgg gttggtgcac
240
ctggtggtgg tggccgccaa gaagctggtg aaccgcctcc aagtggctcc caagacgcag
300
ctggatgaga cggtgctgtg ggtggtgcac gtctctggcc ccattaaccc ccaggtgctc
360
aaaagcaaag cagccaagga gctcaaggcg ctgcaggact tggcacggaa ggaaatgctg
420
gagctcttgg acatgccagc ggcggagctg cttcaagacc accagctcct ctgggctcag
480
ctcttcagcc caggagtgga aatgaagaag atcactgaca cccacacgcc gtctggcctc
540
accgtgaacc tgacgctcta ttacatgctc tcctgctcgc cagccccact gctcagcccc
600
```

```
tccctgagcc acagggagcg agaccagatg gagtcgacgc tcaactatga agatcactgc
660
ttcagcgggc acgccaccat gcacgccgag aacctgtggc cggggcggct gtcctccgtc
720
cagcagatcc tgcagctctc tgacctgtgg aggctgaccc tccagaagcg tggctgcaag
780
gggctggtga aggtgggtgc cccaggcatc ctgcagggga tggtgctcag ctttggggg
840
ctgcagttca cagagaacca cctccagttc caggccgacc ccgacgtgct gcacaacagc
900
tatgcattgc atggcatccg ctacaagaac gaccatatca acctggccgt gctgcggatg
960
ccgagggcaa gccctaccta cacgtgtccg tggagtcccg tggccagcct gtcanagatc
1020
tatgcctgca aggcaggctg cctggacgag ccagtggagc tgacctcggc gcccacgggc
1080
cacaccttct cggtcatggt gacacagccc atcacgccac tgctctacat ctccaccgac
1140
ctcacacacc tgcaggacct gcggcacacg ctgcacctca aggccatcct ggcccatgat
1200
gagcacatgg cccagcagga ccccgggctg cccttcctct tctggttcag cgtggcctcc
1260
ctaatcaccc tcttccacct cttcctcttc aagctcatct acaacgagta ctgtgggcct
1320
ggagccaagc ccctcttcag gagtaaggaa gatcccagtg tctgagtgaa ctaacagtcc
1380
tgctttcagc caccatttgc acaagacacc cagcactgaa agtcccgctg ccaggagcaa
1440
gggatccttt ggaagcaccc gccctttgtg ccttgttggg ggaaaccggt gacgcagaag
1500
tgagtgtgga tacaccagag tttgcattgg aaggaatgag tgtcacgtgg ggagggaagg
1560
ggccagtgga ccttttgtaa gctttccact caataaaatg aacctgtatg gcaaatactt
1620
gaaatggaac tcactccttc cactttcccc ctttcttctg tcccaggaaa tagatcatct
1680
tttgaaaaga ctcttgtcta ggaaaagttg tgtcctttc ctaatttaac gtgttctttc
1740
ttaatgaagt tttaatttat ttttgttgag attttgctag atggcttttg catccctgt
1800
agatggtgag tgttggcggt gatgtccgtc tcggcgttcg gaggccccac ggtcccgagg
1860
ctgggccggg gccccccagg gtggctgtgc tgctgcctgt aggagggtgc gggttgtgct
1920
gtcatcctcg ggtttgcacg ccctttttta ggagcctgtg gacatctgtg gttttgtact
1980
ttggggcttc aggggaggtg tttaactttc tagtgattga tgattgtcag gttttgaaat
2040
accaaagctt ttttgttctg tttttaaata aatatctttc aaactttaaa aaaaaaaaa
2100
a
2101
```

```
<210> 5584
```

<211> 454
<212> PRT
<213> Homo sapiens

<400> 5584
Xaa Gly Arg Asp Cys Val Leu Leu Gln Glu Asp Phe Leu Ala His Arg
 1   5   10   15
Gly Arg Pro His Val Tyr Leu Gln Arg Ile Gln Leu Asn Asn Pro Thr
                20   25   30
Glu Arg Val Ala Ala Leu Gln Thr Val Gly Pro Thr Ala Gly Pro Ala
        35   40   45
Pro Asn Ala Phe Thr Ser Thr Leu Glu Lys Val Gly Asp His Gln Phe
    50   55   60
Leu Leu Tyr Ser Gly Arg Ser Pro Pro Thr Pro Thr Gly Leu Val His
65   70   75   80
Leu Val Val Val Ala Ala Lys Lys Leu Val Asn Arg Leu Gln Val Ala
                85   90   95
Pro Lys Thr Gln Leu Asp Glu Thr Val Leu Trp Val Val His Val Ser
                100   105   110
Gly Pro Ile Asn Pro Gln Val Leu Lys Ser Lys Ala Ala Lys Glu Leu
                115   120   125
Lys Ala Leu Gln Asp Leu Ala Arg Lys Glu Met Leu Glu Leu Leu Asp
    130   135   140
Met Pro Ala Ala Glu Leu Leu Gln Asp His Gln Leu Leu Trp Ala Gln
145   150   155   160
Leu Phe Ser Pro Gly Val Glu Met Lys Lys Ile Thr Asp Thr His Thr
                165   170   175
Pro Ser Gly Leu Thr Val Asn Leu Thr Leu Tyr Tyr Met Leu Ser Cys
                180   185   190
Ser Pro Ala Pro Leu Leu Ser Pro Ser Leu Ser His Arg Glu Arg Asp
    195   200   205
Gln Met Glu Ser Thr Leu Asn Tyr Glu Asp His Cys Phe Ser Gly His
    210   215   220
Ala Thr Met His Ala Glu Asn Leu Trp Pro Gly Arg Leu Ser Ser Val
225   230   235   240
Gln Gln Ile Leu Gln Leu Ser Asp Leu Trp Arg Leu Thr Leu Gln Lys
                245   250   255
Arg Gly Cys Lys Gly Leu Val Lys Val Gly Ala Pro Gly Ile Leu Gln
                260   265   270
Gly Met Val Leu Ser Phe Gly Gly Leu Gln Phe Thr Glu Asn His Leu
                275   280   285
Gln Phe Gln Ala Asp Pro Asp Val Leu His Asn Ser Tyr Ala Leu His
    290   295   300
Gly Ile Arg Tyr Lys Asn Asp His Ile Asn Leu Ala Val Leu Arg Met
305   310   315   320
Pro Arg Ala Ser Pro Thr Tyr Thr Cys Pro Trp Ser Pro Val Ala Ser
                325   330   335
Leu Ser Xaa Ile Tyr Ala Cys Lys Ala Gly Cys Leu Asp Glu Pro Val
                340   345   350
Glu Leu Thr Ser Ala Pro Thr Gly His Thr Phe Ser Val Met Val Thr
                355   360   365
Gln Pro Ile Thr Pro Leu Leu Tyr Ile Ser Thr Asp Leu Thr His Leu
    370   375   380
Gln Asp Leu Arg His Thr Leu His Leu Lys Ala Ile Leu Ala His Asp

```
385                    390                    395                    400
Glu His Met Ala Gln Gln Asp Pro Gly Leu Pro Phe Leu Phe Trp Phe
                405                    410                    415
Ser Val Ala Ser Leu Ile Thr Leu Phe His Leu Phe Leu Phe Lys Leu
            420                    425                    430
Ile Tyr Asn Glu Tyr Cys Gly Pro Gly Ala Lys Pro Leu Phe Arg Ser
        435                    440                    445
Lys Glu Asp Pro Ser Val
    450
```

<210> 5585
<211> 740
<212> DNA
<213> Homo sapiens

<400> 5585
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tttttttttt gctttttttt ttttttttta ctttgaacat tagcattaag ttggttaccg
60
tacacatcca aaggcccagc atctcagaaa aatcattagg cggcacacct gtaccagagt
120
ctcacaagaa taaaatatac aatgctacat tgagtggtta aaaatacaca aaaaagtagt
180
tttaacaatc tataaatttt ttatacttaa aatcatgatt gagttgaaat aaaaaagtgc
240
atttcaattg ctaaaaaaat aatatcggta tagttaacac aaggggaaa tcagtacatt
300
gagggatctg acaggatgct ggaaaaaatg actcagggaa gccgggcagc atgggctcct
360
ttggagattc aggagcggag ctcagttcca cctcactgca gttccctggg gccaagcagc
420
cctcctctcc ccagtatctt tcccatctta agagatcctg tcctacctac ctgtcacctc
480
cccaacccaa agactcctct aaacttcttt gcagcatgac agctgcctgc cctacactga
540
gtctacttga ccttcaattg cgtctccgca gagaggtagg agagggacac tgccccattc
600
tggacttgac ataagtaccc cagccacatg gccttcatcc ttatgaccta gcaggcagaa
660
cagggaccaa gcagcttcta ttttgtcaaa ctcctttgga caaatattca acattcaaca
720
acaagctttg taaacctaac
740
```

<210> 5586
<211> 87
<212> PRT
<213> Homo sapiens

<400> 5586
```
Met Gly Ser Phe Gly Asp Ser Gly Ala Glu Leu Ser Ser Thr Ser Leu
1               5                   10                  15
Gln Phe Pro Gly Ala Lys Gln Pro Ser Ser Pro Gln Tyr Leu Ser His
            20                  25                  30
Leu Lys Arg Ser Cys Pro Thr Tyr Leu Ser Pro Pro Gln Pro Lys Asp
```

```
                35                    40                    45
     Ser Ser Lys Leu Leu Cys Ser Met Thr Ala Ala Cys Pro Thr Leu Ser
           50                    55                    60
     Leu Leu Asp Leu Gln Leu Arg Leu Arg Arg Glu Val Gly Glu Gly His
     65                    70                    75                    80
     Cys Pro Ile Leu Asp Leu Thr
                         85


     <210> 5587
     <211> 853
     <212> DNA
     <213> Homo sapiens

     <400> 5587
     tttttttagag attagtattt ccttgttcac aagacaccta attgacttgc aacaagacaa
     60
     aatattcagt gcatctggtt ggggccaaca tggatgatga cgtgtttctc ataagccctt
     120
     ttcattgttt tctcaatttg cttcagaaaa acttgcggga ttcgtccaca taaagtgtgc
     180
     acagtctcca aaaacttcag ctgaaggggg taatacatgg attgaaagag attgtcttga
     240
     aagggaaaat cccgtattgc ttcatagagt gctctgaacg ttggttgctt atcgtcatgg
     300
     tagacgcctc ggtttccatg cagaacagac acaccttcat gctcagcctc tctgcagttg
     360
     cttccgtaca tgcagtgatc gggacggtag ttccactggc aggggaatac atagagacac
     420
     tctgggttga aataaaaaat aatatttaat aaatcctggt ctccccacgt gatggcattc
     480
     ttgtacttct ggtacagagg gtacaacatg tcctcccaag ccaggcctgt tggaatcatg
     540
     ctgttcttga actgggtact tcttatccga gttaaattca ttaacatgac tcctgaatta
     600
     actcctgcag agccatagaa aggatgccta gcaaagcggc tgtaccagcc aatcttgggg
     660
     atttcgtgct caggggccat ggctgcaagc tgggtggaat taaacagcct cagaagcttc
     720
     cagatgtcat caacaggtct cagaaagagg acatcggtgt ccacgtagag aagtgagtcc
     780
     acatccttta aaatcaccgg aagaaagagt ctctgggcag cacagggttt gaacaatttc
     840
     ttccactcct gag
     853


     <210> 5588
     <211> 204
     <212> PRT
     <213> Homo sapiens

     <400> 5588
     Met Ala Pro Glu His Glu Ile Pro Lys Ile Gly Trp Tyr Ser Arg Phe
     1               5                   10                  15
     Ala Arg His Pro Phe Tyr Gly Ser Ala Gly Val Asn Ser Gly Val Met
```

                                      4768

```
                    20                    25                    30
Leu Met Asn Leu Thr Arg Ile Arg Ser Thr Gln Phe Lys Asn Ser Met
                35                    40                    45
Ile Pro Thr Gly Leu Ala Trp Glu Asp Met Leu Tyr Pro Leu Tyr Gln
    50                    55                    60
Lys Tyr Lys Asn Ala Ile Thr Trp Gly Asp Gln Asp Leu Leu Asn Ile
65                    70                    75                    80
Ile Phe Tyr Phe Asn Pro Glu Cys Leu Tyr Val Phe Pro Cys Gln Trp
                85                    90                    95
Asn Tyr Arg Pro Asp His Cys Met Tyr Gly Ser Asn Cys Arg Glu Ala
                100                   105                   110
Glu His Glu Gly Val Ser Val Leu His Gly Asn Arg Gly Val Tyr His
            115                   120                   125
Asp Asp Lys Gln Pro Thr Phe Arg Ala Leu Tyr Glu Ala Ile Arg Asp
        130                   135                   140
Phe Pro Phe Gln Asp Asn Leu Phe Gln Ser Met Tyr Tyr Pro Leu Gln
145                   150                   155                   160
Leu Lys Phe Leu Glu Thr Val His Thr Leu Cys Gly Arg Ile Pro Gln
                165                   170                   175
Val Phe Leu Lys Gln Ile Glu Lys Thr Met Lys Arg Ala Tyr Glu Lys
            180                   185                   190
His Val Ile Ile His Val Gly Pro Asn Gln Met His
        195                   200
```

<210> 5589
<211> 1327
<212> DNA
<213> Homo sapiens

<400> 5589
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nncccccttc ccctcccac agctgcctcc atttccttaa ggaagggttt ttttctctct
60
ccctccccca caccgtagcg gcgcgcgagc gggccgggcg ggcggccgag ttttccaaga
120
gataacttca ccaagatgtc cagtgatagg caaaggtccg atgatgagag ccccagcacc
180
agcagtggca gttcagatgc ggaccagcga gacccagccg ctccagagcc tgaagaacaa
240
gaggaaagaa aaccttctgc cacccagcag aagaaaaaca ccaaactctc tagcaaaacc
300
actgctaagt tatccactag tgctaaaaga attcagaagg agctagctga aataacccctt
360
gatcctcctc ctaattgcag tgctgggcct aaaggagata acatttatga atggagatca
420
actatacttg gtccaccggg ttctgtatat gaaggtggtg tgtttttttct ggatatcaca
480
ttttcatcag attatccatt taagccacca aaggttactt tccgcaccag aatctatcac
540
tgcaacatca acagtcaggg agtcatctgt ctggacatcc ttaaagacaa ctggagtccc
600
gctttgacta tttcaaaggt tttgctgtct atttgttccc ttttgacaga ctgcaaccct
660
gcggatcctc tggttggaag catagccact cagtatttga ccaacagagc agaacacgac
720
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1327

<210> 5590
<211> 207
<212> PRT
<213> Homo sapiens

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            20   25   30
Glu Glu Gln Glu Glu Arg Lys Pro Ser Ala Thr Gln Gln Lys Lys Asn
        35   40   45
Thr Lys Leu Ser Ser Lys Thr Thr Ala Lys Leu Ser Thr Ser Ala Lys
    50   55   60
Arg Ile Gln Lys Glu Leu Ala Glu Ile Thr Leu Asp Pro Pro Pro Asn
65   70   75   80
Cys Ser Ala Gly Pro Lys Gly Asp Asn Ile Tyr Glu Trp Arg Ser Thr
                85   90   95
Ile Leu Gly Pro Pro Gly Ser Val Tyr Glu Gly Gly Val Phe Phe Leu
            100   105   110
Asp Ile Thr Phe Ser Ser Asp Tyr Pro Phe Lys Pro Pro Lys Val Thr
        115   120   125
Phe Arg Thr Arg Ile Tyr His Cys Asn Ile Asn Ser Gln Gly Val Ile
    130   135   140
Cys Leu Asp Ile Leu Lys Asp Asn Trp Ser Pro Ala Leu Thr Ile Ser
145   150   155   160
Lys Val Leu Leu Ser Ile Cys Ser Leu Leu Thr Asp Cys Asn Pro Ala
                165   170   175
Asp Pro Leu Val Gly Ser Ile Ala Thr Gln Tyr Leu Thr Asn Arg Ala
            180   185   190
Glu His Asp Arg Ile Ala Arg Gln Trp Thr Lys Arg Tyr Ala Thr

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<210> 5591
<211> 2194
<212> DNA
<213> Homo sapiens

<400> 5591
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1380
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1980
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<210> 5592
<211> 580
<212> PRT
<213> Homo sapiens
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<400> 5592
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            20                  25                  30
Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln Phe Arg Thr
            35                  40                  45
Arg Trp Asp Ser Asp Leu Gln Arg Glu Gly Val Ser His Tyr Arg Leu
        50              55                  60
Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys Tyr Ser Leu Arg Glu
65                  70                  75                  80
Leu His Leu Ser Phe Thr Gln Gly Phe Trp Arg Thr Arg Tyr Trp Gly
                85                  90                  95Pro Phe Leu
Gln Ala Pro Ser Gly Ala Glu Leu Trp Val Trp Phe
                100                 105                 110
Gln Asp Thr Val Thr Asp Val Asp Lys Ser Trp Arg Glu Leu Ser Asn
            115                 120                 125
Val Leu Ser Gly Ile Phe Cys Ala Ser Leu Asn Phe Ile Asp Ser Thr
            130                 135                 140
Asn Thr Val Thr Pro Thr Ala Ser Phe Lys Pro Leu Gly Leu Ala Asn
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4772

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145                     150                     155                     160
Asp Thr Asp His Tyr Phe Leu Arg Tyr Ala Val Leu Pro Arg Glu Val
                165                     170                     175
Val Cys Thr Glu Asn Leu Thr Pro Trp Lys Lys Leu Leu Pro Cys Ser
                180                     185                     190
Ser Lys Ala Gly Leu Ser Val Leu Leu Lys Ala Asp Arg Leu Phe His
            195                     200                     205
Thr Ser Tyr His Ser Gln Ala Val His Ile Arg Pro Val Cys Arg Asn
        210                     215                     220
Ala Arg Cys Thr Ser Ile Ser Trp Glu Leu Arg Gln Thr Leu Ser Val
    225                     230                     235                     240
Val Phe Asp Ala Phe Ile Thr Gly Gln Gly Lys Lys Asp Trp Ser Leu
                245                     250                     255
Phe Arg Met Phe Ser Arg Thr Leu Thr Glu Pro Cys Pro Leu Ala Ser
                260                     265                     270
Glu Ser Arg Val Tyr Val Asp Ile Thr Thr Tyr Asn Gln Pro Cys Leu
            275                     280                     285
Cys Val Gln Asp Asn Glu Thr Leu Glu Val His Pro Pro Pro Thr Thr
        290                     295                     300
Thr Tyr Gln Asp Val Ile Leu Gly Thr Arg Lys Thr Tyr Ala Ile Tyr
    305                     310                     315                     320
Asp Leu Leu Asp Thr Ala Met Ile Asn Asn Ser Arg Asn Leu Asn Ile
                325                     330                     335
Gln Leu Lys Trp Lys Arg Pro Pro Glu Asn Glu Ala Pro Pro Val Pro
            340                     345                     350
Phe Leu His Ala Gln Arg Tyr Val Ser Gly Tyr Gly Leu Gln Lys Gly
            355                     360                     365
Glu Leu Ser Thr Leu Leu Tyr Asn Thr His Pro Tyr Arg Ala Phe Pro
        370                     375                     380
Val Leu Leu Leu Asp Thr Val Pro Trp Tyr Leu Arg Leu Tyr Val His
    385                     390                     395                     400
Thr Leu Thr Ile Thr Ser Lys Gly Lys Glu Asn Lys Pro Ser Tyr Ile
                405                     410                     415
His Tyr Gln Pro Ala Gln Asp Arg Leu Gln Pro His Leu Leu Glu Met
            420                     425                     430
Leu Ile Gln Leu Pro Ala Asn Ser Val Thr Lys Val Ser Ile Gln Phe
            435                     440                     445
Glu Arg Ala Leu Leu Lys Trp Thr Glu Tyr Thr Pro Asp Pro Asn His
        450                     455                     460
Gly Phe Tyr Val Ser Pro Ser Val Leu Ser Ala Leu Val Pro Ser Met
    465                     470                     475                     480
Val Ala Ala Lys Pro Val Asp Trp Glu Glu Ser Pro Leu Phe Asn Ser
                485                     490                     495
Leu Phe Pro Val Ser Asp Gly Ser Asn Tyr Phe Val Arg Leu Tyr Thr
            500                     505                     510
Glu Pro Leu Leu Val Asn Leu Pro Thr Pro Asp Phe Ser Met Pro Tyr
            515                     520                     525
Asn Val Ile Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr Gly Ser
        530                     535                     540
Phe Tyr Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro Arg Thr
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Gly Gly Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala Arg Gly
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Val Pro Pro Leu
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580

<210> 5593
<211> 3078
<212> DNA
<213> Homo sapiens

<400> 5593
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720
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780
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840
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1260
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1320
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1380

4774

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1680
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1740
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1980
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4775

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3078

<210> 5594
<211> 296
<212> PRT
<213> Homo sapiens

<400> 5594
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                20   25   30
Gly Gly Asp Pro Asn His Val Thr Asp Asp Phe Ala Ala His Leu Thr
                35   40   45
Leu Glu His Arg Ala Pro Arg Asp Leu Asp Glu Ser Ser Gly Val Arg
        50   55   60
His Val Arg Arg Met Phe His Pro Gly Arg Gly Leu Gly Gly Pro Arg
65   70   75   80
Ala Arg Arg Ser Asn Met His Phe Thr Ser Ser Ser Thr Gly Gly Leu
                85   90   95
Ser Ser Ser Gln Ser Ser Tyr Ser Pro Ser Asn Arg Glu Ala Met Asp
                100   105   110
Pro Ile Ala Glu Leu Leu Ser Gln Leu Ser Gly Val Arg Arg Ser Ala
            115   120   125
Gly Gly Gln Leu Asn Ser Ser Gly Pro Ser Ala Ser Gln Leu Gln Gln
        130   135   140
Leu Gln Met Gln Leu Gln Leu Glu Arg Gln His Ala Gln Ala Ala Arg
145   150   155   160
Gln Gln Leu Glu Thr Ala Arg Asn Ala Thr Arg Arg Thr Asn Thr Ser
                165   170   175
Ser Val Thr Thr Thr Ile Thr Gln Ser Thr Ala Thr Thr Asn Ile Ala
                180   185   190
Asn Thr Glu Ser Ser Gln Gln Thr Leu Gln Asn Ser Gln Phe Leu Leu
            195   200   205
Thr Arg Leu Asn Asp Pro Lys Met Ser Glu Thr Glu Arg Gln Ser Met
        210   215   220
Glu Ser Glu Arg Ala Asp Arg Ser Leu Phe Val Gln Glu Leu Leu Leu
225   230   235   240
Ser Thr Leu Val Arg Glu Glu Ser Ser Ser Asp Glu Asp Asp Arg
                245   250   255
Gly Glu Met Ala Asp Phe Gly Ala Met Gly Cys Val Asp Ile Met Pro
            260   265   270
Leu Asp Val Ala Leu Glu Asn Leu Asn Leu Lys Glu Ser Asn Lys Gly
        275   280   285
Asn Glu Pro Pro Pro Pro Pro Leu
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<210> 5595
<211> 1515
<212> DNA
<213> Homo sapiens

4776

<400> 5595
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<210> 5596
<211> 299
<212> PRT
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<400> 5596
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Asn Leu Gly Lys Lys Ile Ser Val Pro Arg Asp Val Met Leu Glu Glu
            35   40   45
Leu Ser Leu Leu Thr Asn Arg Gly Ser Lys Met Phe Lys Leu Arg Gln
        50   55   60
Met Arg Val Glu Lys Phe Ile Tyr Glu Asn His Pro Asp Val Phe Ser
65   70   75   80
Asp Ser Ser Met Asp His Phe Gln Lys Phe Leu Pro Thr Val Gly Gly
                85   90   95
Gln Leu Gly Thr Ala Gly Gln Gly Phe Ser Tyr Ser Lys Ser Asn Gly
            100   105   110
Arg Gly Gly Ser Gln Ala Gly Gly Ser Gly Ser Ala Gly Gln Tyr Gly
        115   120   125
Ser Asp Gln Gln His His Leu Gly Ser Gly Ser Gly Ala Gly Gly Thr
    130   135   140
Gly Gly Pro Ala Gly Gln Ala Gly Arg Gly Gly Ala Ala Gly Thr Ala
145   150   155   160
Gly Val Gly Glu Thr Gly Ser Gly Asp Gln Ala Gly Gly Glu Gly Lys
                165   170   175
His Ile Thr Val Phe Lys Thr Tyr Ile Ser Pro Trp Glu Arg Ala Met
            180   185   190
Gly Val Asp Pro Gln Gln Lys Met Glu Leu Gly Ile Asp Leu Leu Ala
        195   200   205
Tyr Gly Ala Lys Ala Glu Leu Pro Lys Tyr Lys Ser Phe Asn Arg Thr
    210   215   220
Ala Met Pro Tyr Gly Gly Tyr Glu Lys Ala Ser Lys Arg Met Thr Phe
225   230   235   240
Gln Met Pro Lys Phe Asp Leu Gly Pro Leu Leu Ser Glu Pro Leu Val
                245   250   255
Leu Tyr Asn Gln Asn Leu Ser Asn Arg Pro Ser Phe Asn Arg Thr Pro
            260   265   270
Ile Pro Trp Leu Ser Ser Gly Glu Pro Val Asp Tyr Asn Val Asp Ile
        275   280   285
Gly Ile Pro Leu Asp Gly Glu Thr Glu Glu Leu
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<210> 5597
<211> 2240
<212> DNA
<213> Homo sapiens

<400> 5597
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4778

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4779

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<210> 5598
<211> 312
<212> PRT
<213> Homo sapiens

<400> 5598

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            35                  40                  45
Gln Leu Leu Gln Ser Ala His Lys Glu Ser Ser Phe Asp Ile Ile Leu
        50                  55                  60
Ser Gly Leu Val Pro Gly Ser Thr Thr Leu His Ser Ala Glu Ile Leu
65                  70                  75                  80
Ala Glu Ile Ala Arg Ile Leu Arg Pro Gly Gly Cys Leu Phe Leu Lys
                85                  90                  95
Glu Pro Val Glu Thr Ala Val Asp Asn Asn Ser Lys Val Lys Thr Ala
            100                 105                 110
Ser Lys Leu Cys Ser Ala Leu Thr Leu Ser Gly Leu Val Glu Val Lys
        115                 120                 125
Glu Leu Gln Arg Glu Pro Leu Thr Pro Glu Glu Val Gln Ser Val Arg
    130                 135                 140
Glu His Leu Gly His Glu Ser Asp Asn Leu Leu Phe Val Gln Ile Thr
145                 150                 155                 160
Gly Lys Lys Pro Asn Phe Glu Val Gly Ser Ser Arg Gln Leu Lys Leu
                165                 170                 175
Ser Ile Thr Lys Lys Ser Ser Pro Ser Val Lys Pro Ala Val Asp Pro
            180                 185                 190
Ala Ala Ala Lys Leu Trp Thr Leu Ser Ala Asn Asp Met Glu Asp Asp
        195                 200                 205
Ser Met Asp Leu Ile Asp Ser Asp Glu Leu Leu Asp Pro Glu Asp Leu
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4780

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Lys Lys Pro Asp Pro Ala Ser Leu Arg Ala Ala Ser Cys Gly Glu Gly
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                260                    265                    270
Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys Ala Ser Cys
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<211> 4492
<212> DNA
<213> Homo sapiens

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2640

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<212> PRT
<213> Homo sapiens

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Ala Tyr Val Arg Val Leu Asp Leu His Lys Lys Pro Phe Leu Ala Lys
                35   40   45
Tyr Phe Pro Phe Met Asp Leu Lys Leu Arg Ala Ala Ser Pro Ile Ile
     50   55   60
Thr Leu Val Ala Leu Asp Glu Ala Leu Asp Asn Tyr Thr Ile Thr Phe
65   70   75   80
Leu Ile Arg Gly Val Ala Ile Gly Gln Thr Ser Leu Thr Ala Ser Val
                85   90   95
Thr Asn Lys Ala Gly Gln Arg Ile Asn Ser Ala Pro Gln Gln Ile Glu
               100   105   110
Val Phe Pro Pro Phe Arg Leu Met Pro Arg Lys Val Thr Leu Leu Ile
               115   120   125
Gly Ala Thr Met Gln Val Thr Ser Glu Gly Gly Pro Gln Pro Gln Ser
               130   135   140
Asn Ile Leu Phe Ser Ile Ser Asn Glu Ser Val Ala Leu Val Ser Ala
145   150   155   160
Ala Gly Leu Val Gln Gly Leu Ala Ile Gly Asn Gly Thr Val Ser Gly
                    165   170   175
Leu Val Gln Ala Val Asp Ala Glu Thr Gly Lys Val Val Ile Ile Ser
                180   185   190
Gln Asp Leu Val Gln Val Glu Val Leu Leu Leu Arg Ala Val Arg Ile
                195   200   205
Arg Ala Pro Ile Met Arg Met Arg Thr Gly Thr Gln Met Pro Ile Tyr
     210   215   220
Val Thr Gly Ile Thr Asn His Gln Asn Pro Phe Ser Phe Gly Asn Ala
225   230   235   240
Val Pro Gly Leu Thr Phe His Trp Ser Val Thr Lys Arg Asp Val Leu
                    245   250   255
Asp Leu Arg Gly Arg His His Glu Ala Ser Ile Arg Leu Pro Ser Gln
                260   265   270
Tyr Asn Phe Ala Met Asn Val Leu Gly Arg Val Lys Gly Arg Thr Gly
                275   280   285
Leu Arg Val Val Val Lys Ala Val Asp Pro Thr Ser Gly Gln Leu Tyr
     290   295   300
Gly Leu Ala Arg Glu Leu Ser Asp Glu Ile Gln Val Gln Val Phe Glu

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Lys Leu Gln Leu Leu Asn Pro Glu Ile Glu Ala Glu Gln Ile Leu Met
                325                     330                     335
Ser Pro Asn Ser Tyr Ile Lys Leu Gln Thr Asn Arg Asp Gly Ala Ala
                340                     345                     350
Ser Leu Ser Tyr Arg Val Leu Asp Gly Pro Glu Lys Val Pro Val Val
                355                     360                     365
His Val Asp Glu Lys Gly Phe Leu Ala Ser Gly Ser Met Ile Gly Thr
            370                     375                     380
Ser Thr Ile Glu Val Ile Ala Gln Glu Pro Phe Gly Ala Asn Gln Thr
385                     390                     395                     400
Ile Ile Val Ala Val Lys Val Ser Pro Val Ser Tyr Leu Arg Val Ser
                405                     410                     415
Met Ser Pro Val Leu His Thr Gln Asn Lys Glu Ala Leu Val Ala Val
                420                     425                     430
Pro Leu Gly Met Thr Val Thr Phe Thr Val His Phe His Asp Asn Ser
            435                     440                     445
Gly Asp Val Phe His Ala His Ser Ser Val Leu Asn Phe Ala Thr Asn
            450                     455                     460
Arg Asp Asp Phe Val Gln Ile Gly Lys Gly Pro Thr Asn Asn Thr Cys
465                     470                     475                     480
Val Val Arg Thr Val Ser Val Gly Leu Thr Leu Leu Arg Val Trp Asp
                485                     490                     495
Ala Glu His Pro Gly Leu Ser Asp Phe Met Pro Leu Pro Val Leu Gln
            500                     505                     510
Ala Ile Ser Pro Glu Leu Ser Gly Ala Met Val Val Gly Asp Val Leu
            515                     520                     525
Cys Leu Ala Thr Val Leu Thr Ser Leu Glu Gly Leu Ser Gly Thr Trp
        530                     535                     540
Ser Ser Ser Ala Asn Ser Ile Leu His Ile Asp Pro Lys Thr Gly Val
545                     550                     555                     560
Ala Val Ala Arg Ala Val Gly Ser Val Thr Val Tyr Tyr Glu Val Ala
                565                     570                     575
Gly His Leu Arg Thr Tyr Lys Glu Val Val Val Ser Val Pro Gln Arg
            580                     585                     590
Ile Met Ala Arg His Leu His Pro Ile Gln Thr Ser Phe Gln Glu Ala
        595                     600                     605
Thr Ala Ser Lys Val Ile Val Ala Val Gly Asp Arg Ser Ser Asn Leu
    610                     615                     620
Arg Gly Glu Cys Thr Pro Thr Gln Arg Glu Val Ile Gln Ala Leu His
625                     630                     635                     640
Pro Glu Thr Leu Ile Ser Cys Gln Ser Gln Phe Lys Pro Ala Val Phe
                645                     650                     655
Asp Phe Pro Ser Gln Asp Val Phe Thr Val Glu Pro Gln Phe Asp Thr
            660                     665                     670
Ala Leu Gly Gln Tyr Phe Cys Ser Ile Thr Met His Arg Leu Thr Asp
        675                     680                     685
Lys Gln Arg Lys His Leu Ser Met Lys Lys Thr Ala Leu Val Val Ser
    690                     695                     700
Ala Ser Leu Ser Ser Ser His Phe Ser Thr Glu Gln Val Gly Ala Glu
705                     710                     715                     720
Val Pro Phe Ser Pro Gly Leu Phe Ala Asp Gln Ala Glu Ile Leu Leu
                725                     730                     735
Ser Asn His Tyr Thr Ser Ser Glu Ile Arg Val Phe Gly Ala Pro Glu
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Phe Ala Lys Glu Lys Ser Phe Gly Trp Pro Ser Phe Ile Thr Tyr Thr
   770                775                780
Val Gly Val Ser Asp Pro Ala Ala Gly Ser Gln Gly Pro Leu Ser Thr
785                790                795                800
Thr Leu Thr Phe Ser Ser Pro Val Thr Asn Gln Ala Ile Ala Ile Pro
              805                810                815
Val Thr Val Ala Phe Val Met Asp Arg Arg Gly Pro Gly Pro Tyr Gly
          820                825                830
Ala Ser Leu Phe Gln His Phe Leu Asp Ser Tyr Gln Val Met Phe Phe
          835                840                845
Thr Leu Phe Ala Leu Leu Ala Gly Thr Ala Val Met Ile Ile Ala Tyr
      850                855                860
His Thr Val Cys Thr Pro Arg Asp Leu Ala Val Pro Ala Ala Leu Thr
865                870                875                880
Pro Arg Ala Ser Pro Gly His Ser Pro His Tyr Phe Ala Ala Ser Ser
              885                890                895
Pro Thr Ser Pro Asn Ala Leu Pro Pro Ala Arg Lys Ala Ser Pro Pro
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Ser Gly Leu Trp Ser Pro Ala Tyr Ala Ser His
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<212> DNA
<213> Homo sapiens

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120
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4786

<210> 5602
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<212> PRT
<213> Homo sapiens

<400> 5602

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			20					25					30		
Arg	Arg	Thr	Thr	Ala	Ser	Leu	Leu	Arg	Lys	Leu	Thr	Thr	Ala	Ser	Asn
		35					40					45			
Gly	Gly	Val	Ile	Glu	Glu	Leu	Ser	Cys	Val	Arg	Ser	Asn	Asn	Tyr	Val
	50					55					60				
Gln	Glu	Pro	Glu	Cys	Arg	Arg	Asn	Leu	Val	Gln	Cys	Leu	Leu	Glu	Lys
65					70					75					80
Gln	Gly	Thr	Pro	Val	Val	Gln	Gly	Ser	Leu	Glu	Leu	Glu	Arg	Val	Met
			85					90					95		
Ser	Ser	Leu	Leu	Asp	Met	Gly	Phe	Ser	Asn	Ala	His	Ile	Asn	Glu	Leu
			100					105					110		
Leu	Ser	Val	Arg	Arg	Gly	Ala	Ser	Leu	Gln	Gln	Leu	Leu	Asp	Ile	Ile
		115					120					125			
Ser	Glu	Phe	Ile	Leu	Leu	Gly	Leu	Asn	Pro	Glu	Pro	Val	Cys	Val	Val
	130					135					140				
Leu	Lys	Lys	Ser	Pro	Gln	Leu	Leu	Lys	Leu	Pro	Ile	Met	Gln	Met	Arg
145					150					155					160
Lys	Arg	Ser	Ser	Tyr	Leu	Gln	Lys	Leu	Gly	Leu	Gly	Glu	Gly	Lys	Leu
			165					170					175		
Lys	Arg	Val	Leu	Tyr	Cys	Cys	Pro	Glu	Ile	Phe	Thr	Met	Arg	Gln	Gln
			180					185					190		
Asp	Ile	Asn	Asp	Thr	Val	Arg	Leu	Leu	Lys	Glu	Lys	Cys	Leu	Phe	Thr
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		210													

<210> 5603
<211> 2070
<212> DNA
<213> Homo sapiens

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atggccaagt ggaacagggc aagctcctgt aaactgtcag aactтттatc actggaccta
1140
caaggtcctg ttagtaatag ccccactgaa gttcagaagc acaacctatc atatctgttt
1200
tataactgga gcattacgaa aaggacactt accgtttggc taatctggtt cactggaagt
1260
ttgggattct actcgttttc cttgaattct gttaacttag gaggcaatga atacttaaac
1320
ctcttcctcc tgggtgtagt ggaaattccc gcctacacct cgtgtgcat cgccatggac
1380
aaggtcggga ggagaacagt cctggcctac tctcтtттct gcagtgcact ggcctgtggt
1440
gtcgttatgg tgatccccca gaaacattat attтtgggtg tggtgacagc tatggttgga
1500
aaatttgcca tcggggcagc atttggcctc atttatcttt atacagctga gctgtatcca
1560
accattgtaa gatcgctggc tgtgggaagc ggcagcatgg tgtgtcgcct ggccagcatc
1620
ctggcgccgt tctctgtgga cctcagcagc atttggatct tcataccaca gttgtttgtt
1680
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1740
cggctagcaa ctacttggga ggaggctgca aaactggagt cagagaatga aagcaagtca
1800
agcaaattac ttctcacaac taataatagt gggctggaaa aaacggaagc gattaccccc
1860
agggattctg gtcttggtga ataaatgtgc catgcctgct gtctagcacc tgaaatatta
1920
tttaccctaa tgcctttgta ttagaggaat cttattctca tctcccatat gttgtttgta
1980

4788

tgtctttta ataaattttg taagaaaatt ttaaagcaaa tatgttataa aagaaataaa
2040
aactaagatg aaaattctca gttttaaaaa
2070

<210> 5604
<211> 560
<212> PRT
<213> Homo sapiens

<400> 5604
Arg Phe Gln Arg Val Leu Tyr Phe Ile Cys Ala Phe Gln Asn Ile Ser
 1   5   10   15
Cys Gly Ile His Tyr Leu Ala Ser Val Phe Met Gly Val Thr Pro His
                20   25   30
His Val Cys Arg Pro Pro Gly Asn Val Ser Gln Val Val Phe His Asn
            35   40   45
His Ser Asn Trp Ser Leu Glu Asp Thr Gly Ala Leu Leu Ser Ser Gly
        50   55   60
Gln Lys Asp Tyr Val Thr Val Gln Leu Gln Asn Gly Glu Ile Trp Glu
65   70   75   80
Leu Ser Arg Cys Ser Arg Asn Lys Arg Glu Asn Thr Ser Ser Leu Gly
                85   90   95
Tyr Glu Tyr Thr Gly Ser Lys Lys Glu Phe Pro Cys Val Asp Gly Tyr
            100   105   110
Ile Tyr Asp Gln Asn Thr Trp Lys Ser Thr Ala Val Thr Gln Trp Asn
        115   120   125
Leu Val Cys Asp Arg Lys Trp Leu Ala Met Leu Ile Gln Pro Leu Phe
    130   135   140
Met Phe Gly Val Leu Leu Gly Ser Val Thr Phe Gly Tyr Phe Ser Asp
145   150   155   160
Arg Leu Gly Arg Arg Val Val Leu Trp Ala Thr Ser Ser Ser Met Phe
                165   170   175
Leu Phe Gly Ile Ala Ala Ala Phe Ala Val Asp Tyr Tyr Thr Phe Met
            180   185   190
Ala Ala Arg Phe Phe Leu Ala Met Val Ala Ser Gly Tyr Leu Val Val
        195   200   205
Gly Phe Val Tyr Val Met Glu Phe Ile Gly Met Lys Ser Arg Thr Trp
    210   215   220
Ala Ser Val His Leu His Ser Phe Phe Ala Val Gly Thr Leu Leu Val
225   230   235   240
Ala Leu Thr Gly Tyr Leu Val Arg Thr Trp Trp Leu Tyr Gln Met Ile
                245   250   255
Leu Ser Thr Val Thr Val Pro Phe Ile Leu Cys Cys Trp Val Leu Pro
            260   265   270
Glu Thr Pro Phe Trp Leu Leu Ser Glu Gly Arg Tyr Glu Glu Ala Gln
        275   280   285
Lys Ile Val Asp Ile Met Ala Lys Trp Asn Arg Ala Ser Ser Cys Lys
        290   295   300
Leu Ser Glu Leu Leu Ser Leu Asp Leu Gln Gly Pro Val Ser Asn Ser
305   310   315   320
Pro Thr Glu Val Gln Lys His Asn Leu Ser Tyr Leu Phe Tyr Asn Trp
                325   330   335
Ser Ile Thr Lys Arg Thr Leu Thr Val Trp Leu Ile Trp Phe Thr Gly

4789

```
                 340                   345                   350
Ser Leu Gly Phe Tyr Ser Phe Ser Leu Asn Ser Val Asn Leu Gly Gly
             355                   360                   365
Asn Glu Tyr Leu Asn Leu Phe Leu Leu Gly Val Val Glu Ile Pro Ala
         370                   375                   380
Tyr Thr Phe Val Cys Ile Ala Met Asp Lys Val Gly Arg Arg Thr Val
385                   390                   395                   400
Leu Ala Tyr Ser Leu Phe Cys Ser Ala Leu Ala Cys Gly Val Val Met
                 405                   410                   415
Val Ile Pro Gln Lys His Tyr Ile Leu Gly Val Val Thr Ala Met Val
             420                   425                   430
Gly Lys Phe Ala Ile Gly Ala Ala Phe Gly Leu Ile Tyr Leu Tyr Thr
             435                   440                   445
Ala Glu Leu Tyr Pro Thr Ile Val Arg Ser Leu Ala Val Gly Ser Gly
         450                   455                   460
Ser Met Val Cys Arg Leu Ala Ser Ile Leu Ala Pro Phe Ser Val Asp
465                   470                   475                   480
Leu Ser Ser Ile Trp Ile Phe Ile Pro Gln Leu Phe Val Gly Thr Met
                 485                   490                   495
Ala Leu Leu Ser Gly Val Leu Thr Leu Lys Leu Pro Glu Thr Leu Gly
             500                   505                   510
Lys Arg Leu Ala Thr Thr Trp Glu Glu Ala Ala Lys Leu Glu Ser Glu
             515                   520                   525
Asn Glu Ser Lys Ser Ser Lys Leu Leu Leu Thr Thr Asn Asn Ser Gly
         530                   535                   540
Leu Glu Lys Thr Glu Ala Ile Thr Pro Arg Asp Ser Gly Leu Gly Glu
545                   550                   555                   560
```

```
<210> 5605
<211> 376
<212> DNA
<213> Homo sapiens

<400> 5605
acgcgtgaag gggaactgat gataaacaca aaaggcaatg ttagatggcg ccaggcactg
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cgagggagac acactgggtc ttggggtaga gcgggaagag gtggtagtga cttcttcagt
120
catccaggga ggcctctcca gggaggatga cggaacatca gaggaaagaa gcaaggagaa
180
ccagccacac tcagagctgg gaaagagcag caggaagatg ggggcagtga gtgccagggc
240
tctgcaggga tgggcttgcc tggcagggag caataccaag gaagttagta gggcccgggt
300
catgccacgg ccttgtaggc agaacctta agtctctttg tagggacccc tttggtctcc
360
cctttgaact acgccc
376


<210> 5606
<211> 101
<212> PRT
<213> Homo sapiens
```

4790

```
<400> 5606
Met Thr Arg Ala Leu Leu Thr Ser Leu Val Leu Leu Pro Ala Arg Gln
1               5                   10                  15
Ala His Pro Cys Arg Ala Leu Ala Leu Thr Ala Pro Ile Phe Leu Leu
                20                  25                  30
Leu Phe Pro Ser Ser Glu Cys Gly Trp Phe Ser Leu Leu Leu Ser Ser
            35                  40                  45
Asp Val Pro Ser Ser Ser Leu Glu Arg Pro Pro Trp Met Thr Glu Glu
    50                  55                  60
Val Thr Thr Thr Ser Ser Arg Ser Thr Pro Arg Pro Ser Val Ser Pro
65                  70                  75                  80
Ser Gln Cys Leu Ala Pro Ser Asn Ile Ala Phe Cys Val Tyr His Gln
                85                  90                  95
Phe Pro Phe Thr Arg
                100


<210> 5607
<211> 320
<212> DNA
<213> Homo sapiens

<400> 5607
gtgcacacgc gaggtatagg ctccagactc ctcaccaaga tgggctatga gtttggcaag
60
ggtttgggcc gacacgcgga aggccgggtg gagcccatcc atgctgtggt gttgcctcga
120
gggaagtcgc tggaccagtg tgtggagacc ctgcagaagc agaccagggt tggcaaggct
180
ggcaccaaca agccccccag gtgccgggga agaggggcca ggcctggggg ccgcccagct
240
cctcggaatg tgtttgactt cctcaatgaa aagctgcaag gtcaggctcc tggggcccta
300
caagccgggc ggcctcagca
320


<210> 5608
<211> 106
<212> PRT
<213> Homo sapiens

<400> 5608
Val His Thr Arg Gly Ile Gly Ser Arg Leu Leu Thr Lys Met Gly Tyr
1               5                   10                  15
Glu Phe Gly Lys Gly Leu Gly Arg His Ala Glu Gly Arg Val Glu Pro
                20                  25                  30
Ile His Ala Val Val Leu Pro Arg Gly Lys Ser Leu Asp Gln Cys Val
            35                  40                  45
Glu Thr Leu Gln Lys Gln Thr Arg Val Gly Lys Ala Gly Thr Asn Lys
    50                  55                  60
Pro Pro Arg Cys Arg Gly Arg Gly Ala Arg Pro Gly Gly Arg Pro Ala
65                  70                  75                  80
Pro Arg Asn Val Phe Asp Phe Leu Asn Glu Lys Leu Gln Gly Gln Ala
                85                  90                  95
Pro Gly Ala Leu Gln Ala Gly Arg Pro Gln
```

4791

                              100   105

<210> 5609
<211> 1843
<212> DNA
<213> Homo sapiens

<400> 5609
tttttttttt tttttttttc aagcaatttt ttccctttat tattttttgtt aaataagatt
60
ccagaaagta tagtgcaaac actcagtaga aaagttgcaa ttaagaaatg tacattcaca
120
tttaacattt cagtccattc acttttttta aaataaaaat aggacaaatt attcaattac
180
ttgtctcaat ttaacaatct tgaaaaagac tggaaggtac cctacagtgt tcagttgaca
240
taaaaataga cccgtattga tcatacaaat ctatcatgag aagttaccca gtgagagtga
300
gttattgtaa ttctgaatgt actcatcgtg tttctcactt ctacagaagc atcctcagtg
360
agttgtattg tgcgagaaaa tgacacccctt gcccacatca ctctccattc catagaggga
420
cacaacccta tctagccaaa cccagaagaa cgcaggcgct tacacaactt ttctcggaca
480
gtcgagaaaa tccaaaagtg ggctttgggc ttaccttaaa taggaatgga atgtaccact
540
acgagatggt catcataata aggacattgt tgtttgagcg gggggtgtgc aatcagtata
600
aatgaggatg gcggaggaag aggagtggtg actgaaggga ggtggtgcat aataagtgca
660
cgagctacac aaagctcgag ctacacaaag ctcaggctcc acgggcctcg ccttggctcc
720
cagggatgct ctgcagccag cgggcggatg acctgaggtc gggcctgggc ctgtcccttt
780
gtgcatgcgg cgtgatttca aattcaaact aagttccaca ccattaggag ttttcacggc
840
atgcagttcc agagtgcaaa tggcttgcat atgtgcagtt tttacaggtg gaaggcaaga
900
ccatacatct ctcccacact gggcgtgcct cctagtggac agttgtatgc aagaggcggt
960
gatgggctcc ctcaggatcc cccaatgtgg gaatggtccc ctgagacttg tgcttcgtgt
1020
gcctggggcc cagagttggg tgggggggttg ctggtgggag gtgagaaaca agttctggct
1080
gccgtcgggc cagcttccca ctgccctcac ctgggaggtg gatgcccaca ggcaggatgc
1140
tctgggctac tgttgcacag tcctgcacga gatatttatt cagcccacaa gatttaatag
1200
atctcttggg agttcatcta ggctattatg tctgtttaaa cattaattct caataagtgc
1260
ctgaaagctc ttttgaaagc aacctatttg aaggtctgaa ccgcccggta ccagcaggaa
1320
ccaatgccca ggagagggtc agagcacatg tgctctggtg gttgtcaaat ctctcaccat
1380

                                    4792

ccatcataag ccctctgaac tcctgctgaa atcggccctt tgaacatcct ctaacccctg
1440
ggaaggcacc cggacccacc tttacctcac cagcagcata tgacaataac attaaatggc
1500
tctacagcag aggaagatga aagtaaaagt agcaaataca accaatggcc ttcccatagc
1560
tcacagaact cctgagcaga agctgagcag ggaagaaatg gtgtgtagtt tcagggtgtc
1620
tggaggtgcc accatttctc cccatttgat gtcagagagg ctttacaaaa aaataaggca
1680
acagctctta aggagattct gtatatttga aattagacgc aatgacaggt ttcgctccca
1740
aantatagtt ttagaatata gtctgatatg acaaagtagg gattttaaa gcctaacatt
1800
ttatttcctt gctggggatc agttagtaaa gaaggaggaa ttc
1843

<210> 5610
<211> 153
<212> PRT
<213> Homo sapiens

<400> 5610
Met Arg Arg Asp Phe Lys Phe Lys Leu Ser Ser Thr Pro Leu Gly Val
1   5   10   15
Phe Thr Ala Cys Ser Ser Arg Val Gln Met Ala Cys Ile Cys Ala Val
            20   25   30
Phe Thr Gly Gly Arg Gln Asp His Thr Ser Leu Pro His Trp Ala Cys
        35   40   45
Leu Leu Val Asp Ser Cys Met Gln Glu Ala Val Met Gly Ser Leu Arg
    50   55   60
Ile Pro Gln Cys Gly Asn Gly Pro Leu Arg Leu Val Leu Arg Val Pro
65   70   75   80
Gly Ala Gln Ser Trp Val Gly Gly Cys Trp Trp Glu Val Arg Asn Lys
                85   90   95
Phe Trp Leu Pro Ser Gly Gln Leu Pro Thr Ala Leu Thr Trp Glu Val
            100   105   110
Asp Ala His Arg Gln Asp Ala Leu Gly Tyr Cys Cys Thr Val Leu His
        115   120   125
Glu Ile Phe Ile Gln Pro Thr Arg Phe Asn Arg Ser Leu Gly Ser Ser
    130   135   140
Ser Arg Leu Leu Cys Leu Phe Lys His
145   150

<210> 5611
<211> 1152
<212> DNA
<213> Homo sapiens

<400> 5611
ngggccgctc cctcccggac tcccggcctc ccggcctccc tggtcccgcc tgggaaggga
60
tgcaaggaag ccctccggcg ctgcgctccg aggcgggaga cagcgtcccc ctccgcccct
120

cgggtcctgg cgcctcagag cccggcccag gccgcggaac ggtgatgctc gggccggacg
180

ggcgagcgcg gatccctgcg tcccgctgaa aatgtgtgtc tgacatgcaa gctcagtggg
240

gcagagaccc gtggattgct gtgccctgcc ctccggacct ggatcatgaa ggtgttggga
300

agaagcttct tctgggtgct gtttcccgtc cttccctggg cggtgcaggc tgtggagcac
360

gaggaggtgg cgcagcgtgt gatcaaactg caccgcgggc gaggggtggc tgccatgcag
420

agccggcagt gggtccggga cagctgcagg aagctctcag ggcttctccg ccagaagaat
480

gcagttctga acaaactgaa aactgcaatt ggagcagtgg agaaagacgt gggcctgtcg
540

gatgaagaga aactgtttca ggtgcacacg tttgaaattt ccagaaaga gctgaatgaa
600

agtgaaaatt ccgtttttcca agctgtctac ggactgcaga gagccctgca gggggattac
660

aaagatgtcg tgaacatgaa ggagagcagc cggcagcgcc tggaggccct gagagaggct
720

gcaataaagg aagaaacaga atatatggaa cttctggcag cagaaaaaca tcaagttgaa
780

gcccttaaaa atatgcaaca tcaaaaccaa agtttatcca tgcttgacga gattcttgaa
840

gatgtaagaa aggcagcgga tcgtctggag gaagagatag aggaacatgc ttttgacgac
900

aataaatcag tcaaggggggt caattttgag gcagttctga gggtggagga agaagaggcc
960

aattctaagc aaaatataac aaaacgagaa gtggaggatg acttggttct tagcatgctg
1020

attgactccc agaacaacca gtatattttg accaagccca gagattcaac catcccacgt
1080

gcagatcacc actttataaa ggacattgtt accataggaa tgctgtcttt gccttgtggc
1140

tggcgatgta ca
1152

<210> 5612
<211> 289
<212> PRT
<213> Homo sapiens

<400> 5612
Met Lys Val Leu Gly Arg Ser Phe Phe Trp Val Leu Phe Pro Val Leu
1   5   10   15
Pro Trp Ala Val Gln Ala Val Glu His Glu Glu Val Ala Gln Arg Val
            20   25   30
Ile Lys Leu His Arg Gly Arg Gly Val Ala Ala Met Gln Ser Arg Gln
        35   40   45
Trp Val Arg Asp Ser Cys Arg Lys Leu Ser Gly Leu Leu Arg Gln Lys
    50   55   60
Asn Ala Val Leu Asn Lys Leu Lys Thr Ala Ile Gly Ala Val Glu Lys
65   70   75   80
Asp Val Gly Leu Ser Asp Glu Glu Lys Leu Phe Gln Val His Thr Phe

4794

```
                         85                    90                    95
Glu Ile Phe Gln Lys Glu Leu Asn Glu Ser Glu Asn Ser Val Phe Gln
                100                   105                   110
Ala Val Tyr Gly Leu Gln Arg Ala Leu Gln Gly Asp Tyr Lys Asp Val
                115                   120                   125
Val Asn Met Lys Glu Ser Ser Arg Gln Arg Leu Glu Ala Leu Arg Glu
        130                   135                   140
Ala Ala Ile Lys Glu Glu Thr Glu Tyr Met Glu Leu Leu Ala Ala Glu
145                   150                   155                   160
Lys His Gln Val Glu Ala Leu Lys Asn Met Gln His Gln Asn Gln Ser
                165                   170                   175
Leu Ser Met Leu Asp Glu Ile Leu Glu Asp Val Arg Lys Ala Ala Asp
                180                   185                   190
Arg Leu Glu Glu Glu Ile Glu Glu His Ala Phe Asp Asp Asn Lys Ser
        195                   200                   205
Val Lys Gly Val Asn Phe Glu Ala Val Leu Arg Val Glu Glu Glu Glu
        210                   215                   220
Ala Asn Ser Lys Gln Asn Ile Thr Lys Arg Glu Val Glu Asp Asp Leu
225                   230                   235                   240
Val Leu Ser Met Leu Ile Asp Ser Gln Asn Asn Gln Tyr Ile Leu Thr
                245                   250                   255
Lys Pro Arg Asp Ser Thr Ile Pro Arg Ala Asp His His Phe Ile Lys
                260                   265                   270
Asp Ile Val Thr Ile Gly Met Leu Ser Leu Pro Cys Gly Trp Arg Cys
        275                   280                   285
Thr
```

```
<210> 5613
<211> 1679
<212> DNA
<213> Homo sapiens

<400> 5613
ggctaaggct gcatcccagg tgagttcccc cccccgtac cccggaggtt ttgttggtga
60
gggttccggg gagcggcctg gagagaggtg gaggcgaagt ctagtttcgc ttcagggagg
120
ctcagaccct gtggggtcaa gtcggcggtg gaggccctag ctcagcctg tggggaccgg
180
cggggactcg gcctgggcag tcctgggaga agctgagccg gctctgcctg aagccagttc
240
tccttgtcgc aggtgctggt ggacagcgcg gaggaggggt ccctcgctgc ggcggcggag
300
ctggccgctc agaagcgcga acagagactg cgcaaattcc gggagctgca cctgatgcgg
360
aatgaagctc gtaaattaaa tcaccaggaa gttgtggaag aagataaaag actaaaatta
420
cctgcaaatt gggaagccaa aaaagctcgt ttggagtggg aactaaagga agaggaaaag
480
aaaaaggaat gtgcggcaag aggagaagac tatgagaaag tgaagttgct ggagatcagt
540
gcagaagatg cagaaagatg ggagaggaaa aagaagagga aaaaccctga tctgggattt
600
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```
tcagattatg ctgctgccca gttacgccag tatcatcggt tgaccaagca gatcaaacct
660
gacatggaaa catatgagag actgagagaa aaacatggag aagagttttt cccaacatcc
720
aatagtcttc ttcatggaac acatgtgcct tccacagagg aaattgacag gatggtcata
780
gatctggaaa aacagattga aaaacgagac aaatatagcc ggagacgtcc ttataatgat
840
gatgcagata tcgactacat taatgaaagg aatgccaaat tcaacaagaa agctgaaaga
900
ttctatggga aatacacagc tgaaattaaa cagaatttgg aaagaggaac agctgtctaa
960
tcccttcaag aactgtttat agaagcttga gaatggggta aaaatttctg ctagcaaaat
1020
caagttcttt ttgaaatttt atcagtaatc cagaatttag tagtccatgc cttctcactc
1080
agcatttaga aataaaaatg tggtttctta aacgtatatc ctttcatgta tatttccaca
1140
tttttgtgct tggatataag atgtatttct tgtagtgaag ttgttttgta atctactttg
1200
tatacattct aattatatta tttttctatg tattttaaat gtatatggct gtttaatctt
1260
tgaagcattt tgggcttaag attgccagca gcacacatca gatgcagtca ttgttgctat
1320
cagtgtggaa tttgatagag tctagactcg ggccacttgg agttgtgtac tccaaagcta
1380
aggacagtga tgaggaagat ggcagtggcc accggaggac tggagcagtc cctcctcatg
1440
gcggcctgtg accaaggtcg gggaggagtg gagctatcct tccatgatct gatcatgtac
1500
ttcggagaga ggctggagtg tgctaccgac gtcgaatatc catgcagtcg gttagaggct
1560
ggagtgtgct accgacgtcg aatatccatg cagactagaa aacccattat ctcagcccaa
1620
aatctcctta agctgataag caacttcagc aaagtctcag catacaaaat caatgtaca
1679
```

```
<210> 5614
<211> 242
<212> PRT
<213> Homo sapiens

<400> 5614
Ser Gln Phe Ser Leu Ser Gln Val Leu Val Asp Ser Ala Glu Glu Gly
1               5                   10                  15
Ser Leu Ala Ala Ala Ala Glu Leu Ala Ala Gln Lys Arg Glu Gln Arg
                20                  25                  30
Leu Arg Lys Phe Arg Glu Leu His Leu Met Arg Asn Glu Ala Arg Lys
            35                  40                  45
Leu Asn His Gln Glu Val Val Glu Glu Asp Lys Arg Leu Lys Leu Pro
        50                  55                  60
Ala Asn Trp Glu Ala Lys Lys Ala Arg Leu Glu Trp Glu Leu Lys Glu
65                  70                  75                  80
Glu Glu Lys Lys Lys Glu Cys Ala Ala Arg Gly Glu Asp Tyr Glu Lys
```

4796

```
                      85                      90                      95
Val Lys Leu Leu Glu Ile Ser Ala Glu Asp Ala Glu Arg Trp Glu Arg
            100                     105                     110
Lys Lys Lys Arg Lys Asn Pro Asp Leu Gly Phe Ser Asp Tyr Ala Ala
        115                     120                     125
Ala Gln Leu Arg Gln Tyr His Arg Leu Thr Lys Gln Ile Lys Pro Asp
    130                     135                     140
Met Glu Thr Tyr Glu Arg Leu Arg Glu Lys His Gly Glu Glu Phe Phe
145                     150                     155                     160
Pro Thr Ser Asn Ser Leu Leu His Gly Thr His Val Pro Ser Thr Glu
                165                     170                     175
Glu Ile Asp Arg Met Val Ile Asp Leu Glu Lys Gln Ile Glu Lys Arg
            180                     185                     190
Asp Lys Tyr Ser Arg Arg Arg Pro Tyr Asn Asp Asp Ala Asp Ile Asp
        195                     200                     205
Tyr Ile Asn Glu Arg Asn Ala Lys Phe Asn Lys Lys Ala Glu Arg Phe
    210                     215                     220
Tyr Gly Lys Tyr Thr Ala Glu Ile Lys Gln Asn Leu Glu Arg Gly Thr
225                     230                     235                     240
Ala Val
```

```
<210> 5615
<211> 1522
<212> DNA
<213> Homo sapiens

<400> 5615
ccggctgtat tatctggcta tttcaaacag tttcagaagt ctttacctcc acgattccag
60
cggcagcagg aacagatgaa acagcagcag tggcagcagc agcaacagca aggtgtactt
120
ccacagactg ttccttcaca accgtccagt agtactgtcc ctcctccacc acacagacct
180
ctttatcagc ctatgcagcc tcatcctcag catttggctt ctatgggttt tgatccaagg
240
tggctcatga tgcagtccta catggatcct cgaatgatgt caggaagacc tgctatggat
300
attccaccca ttcatcctgg aatgattcct cctaaaccat taatgagaag agaccagatg
360
gaagggtcac cgaacagttc tgagtcattt gagcatatag ctcgatctgc aagagatcac
420
gcaatttccc tttctgagcc tcgtatgctg tgggggtcag atccctatcc tcatgctgag
480
cctcaacaag caactactcc caaagcaaca gaagagcctg aggatgtaag gtctgaagct
540
gcgttggacc aggaacagat tactgctgct tattctgtag aacataatca attagaggct
600
cacccaaagg cagactttat cagagaatca agtgaggcac aagtacaaaa gttttaagc
660
agatctgtgg aagatgttag acctcaccat actgatgcaa ataatcagtc tgcttgtttt
720
gaagcacctg atcaaaagac cttatccact cctcaagagg agcggatttc agctgtagaa
780
```

```
agtcagcctt cccggaaaag aagtgtttcc catggatcta accatacgca aaaaccagac
840
gagcagagaa gtgaaccatc tgcaggcatt cctaaagtaa ccagcagatg cattgattca
900
aaagaaccaa tagaaaggcc agaggagaaa ccaaaaaagg aaggctttat acgatcttct
960
gaaggaccaa aacctgaaaa agtatataaa tctaaatcag aaactcgttg gggcccacga
1020
ccaagctcta acagaaggga agaagttaat gatagacctg tgagaagatc aggtcccatt
1080
aaaaaacctg tacttagaga tatgaaagag gaacgggaac agaggaagga gaaagaagga
1140
gaaaaggccg aaaaggtcac tgaaaaagta gttgtaaagc ctgaaaagac ggaaaagaag
1200
gatcttcctc ctcccccacc accacctcag ccaccagcac caattcagcc acagtcagtt
1260
ccaccaccaa ttcaaccaga agcagagaaa tttccttcaa cagaaactgc aactttggct
1320
caaaaaccat ctcaggatac tgagaagcct ctggaacctg tgagtactgt tcaggtagag
1380
cctgcagtta agactgtaaa ccaacagact atggcagcac cagtagtcaa agaaaaagaa
1440
ctacaaaaga aagaaagaaa gcaagaaaaa gaaaagaac tagaacggca gaaagaaaag
1500
gaaaaagaac tacaaaaaaa aa
1522
```

```
<210> 5616
<211> 507
<212> PRT
<213> Homo sapiens
```

```
<400> 5616
Pro Ala Val Leu Ser Gly Tyr Phe Lys Gln Phe Gln Lys Ser Leu Pro
1               5                   10                  15
Pro Arg Phe Gln Arg Gln Gln Glu Gln Met Lys Gln Gln Gln Trp Gln
            20                  25                  30
Gln Gln Gln Gln Gln Gly Val Leu Pro Gln Thr Val Pro Ser Gln Pro
        35                  40                  45
Ser Ser Ser Thr Val Pro Pro Pro His Arg Pro Leu Tyr Gln Pro
    50                  55                  60
Met Gln Pro His Pro Gln His Leu Ala Ser Met Gly Phe Asp Pro Arg
65                  70                  75                  80
Trp Leu Met Met Gln Ser Tyr Met Asp Pro Arg Met Met Ser Gly Arg
                85                  90                  95
Pro Ala Met Asp Ile Pro Pro Ile His Pro Gly Met Ile Pro Pro Lys
            100                 105                 110
Pro Leu Met Arg Arg Asp Gln Met Glu Gly Ser Pro Asn Ser Ser Glu
        115                 120                 125
Ser Phe Glu His Ile Ala Arg Ser Ala Arg Asp His Ala Ile Ser Leu
    130                 135                 140
Ser Glu Pro Arg Met Leu Trp Gly Ser Asp Pro Tyr Pro His Ala Glu
145                 150                 155                 160
Pro Gln Gln Ala Thr Thr Pro Lys Ala Thr Glu Glu Pro Glu Asp Val
```

```
                 165                    170                      175
    Arg Ser Glu Ala Ala Leu Asp Gln Glu Gln Ile Thr Ala Ala Tyr Ser
             180                    185                    190
    Val Glu His Asn Gln Leu Glu Ala His Pro Lys Ala Asp Phe Ile Arg
         195                    200                    205
    Glu Ser Ser Glu Ala Gln Val Gln Lys Phe Leu Ser Arg Ser Val Glu
         210                    215                    220
    Asp Val Arg Pro His His Thr Asp Ala Asn Asn Gln Ser Ala Cys Phe
    225                    230                    235                    240
    Glu Ala Pro Asp Gln Lys Thr Leu Ser Thr Pro Gln Glu Glu Arg Ile
                 245                    250                    255
    Ser Ala Val Glu Ser Gln Pro Ser Arg Lys Arg Ser Val Ser His Gly
                 260                    265                    270
    Ser Asn His Thr Gln Lys Pro Asp Glu Gln Arg Ser Glu Pro Ser Ala
             275                    280                    285
    Gly Ile Pro Lys Val Thr Ser Arg Cys Ile Asp Ser Lys Glu Pro Ile
             290                    295                    300
    Glu Arg Pro Glu Glu Lys Pro Lys Lys Glu Gly Phe Ile Arg Ser Ser
    305                    310                    315                    320
    Glu Gly Pro Lys Pro Glu Lys Val Tyr Lys Ser Lys Ser Glu Thr Arg
                 325                    330                    335
    Trp Gly Pro Arg Pro Ser Ser Asn Arg Arg Glu Glu Val Asn Asp Arg
             340                    345                    350
    Pro Val Arg Arg Ser Gly Pro Ile Lys Lys Pro Val Leu Arg Asp Met
         355                    360                    365
    Lys Glu Glu Arg Glu Gln Arg Lys Glu Lys Glu Gly Glu Lys Ala Glu
         370                    375                    380
    Lys Val Thr Glu Lys Val Val Val Lys Pro Glu Lys Thr Glu Lys Lys
    385                    390                    395                    400
    Asp Leu Pro Pro Pro Pro Pro Pro Gln Pro Pro Ala Pro Ile Gln
                 405                    410                    415
    Pro Gln Ser Val Pro Pro Pro Ile Gln Pro Glu Ala Glu Lys Phe Pro
             420                    425                    430
    Ser Thr Glu Thr Ala Thr Leu Ala Gln Lys Pro Ser Gln Asp Thr Glu
             435                    440                    445
    Lys Pro Leu Glu Pro Val Ser Thr Val Gln Val Glu Pro Ala Val Lys
         450                    455                    460
    Thr Val Asn Gln Gln Thr Met Ala Ala Pro Val Val Lys Glu Lys Glu
    465                    470                    475                    480
    Leu Gln Lys Lys Glu Arg Lys Gln Glu Lys Glu Lys Glu Leu Glu Arg
                 485                    490                    495
    Gln Lys Glu Lys Glu Lys Glu Leu Gln Lys Lys
                 500                    505
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<210> 5617
<211> 3480
<212> DNA
<213> Homo sapiens

<400> 5617

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60
aataagtttt cgtaggttat actatcattt tttttctga cttttagaaa aaaaatgatc
120

4799

atttacttga ttttttttaa gttgtatttt taatttgaga ggatttcaca tgaactgtaa
180
tgtttgtgtt ttcagccagt gcacaaagac tctattagcc ttttcatggc acatgttcac
240
accactgtaa atgaaatgag taccagatat taccagaatg agagaagaca caactatacc
300
accccaaaga gttttctaga acaaatatca ctgtttaaga acctgttgaa gaagaagcaa
360
aatgaggtat ccgagaaaaa agaacgcctg gtgaacggca tccaaaagct aaaaaccaca
420
gcctctcagg tgggagatct aaaagccaga cttgcctctc aagaagccga gctgcaactg
480
agaaatcatg atgccgaagc tctgatcaca aagatcggcc ttcagacgga gaaagtgagc
540
cgggaaaaga ccatcgctga tgctgaggag cgaaaggtga cagccattca gactgaagtg
600
ttccagaaac agagagaatg tgaagctgac ttactcaagg ctgagcctgc actggtggct
660
gctacagctg cactcaatac actcaacagg gtcaacctca gtgagctgaa agcctttccc
720
aaccctccca tcgcagttac caatgttact gcagccgtga tggtccttct ggctcctcgg
780
ggaagagtgc ccaaagaccg aagttggaaa gcagctaaag tcttcatggg aaaggttgat
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1020
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1140
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1200
acactctgtg gagatgttct tctcacggcg gcatttgtgt cttacgtcgg accccttcaca
1260
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1320
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1380
gccgcctgga ataacgaagg actgcccagt gacagaatgt ccaccgaaaa tgccgctatc
1440
ctaacacact gtgagcgctg gcctctggtg atagatcccc agcaacaggg aattaagtgg
1500
atcaagaata gtatggaat ggacctgaaa gtcacacatt tgggccagaa agggtttttg
1560
aatgccattg aaactgcttt ggcctttggt gatgtcatct taattgaaaa tctcgaggaa
1620
acgatagatc cagtcctgga tccactactt ggcaggaaca caattaaaaa aggaaagtat
1680
atcaggattg gagataaaga atgtgaattt aacaagaact ttcgccttat ccttcacaca
1740

```
aaattggcaa atcctcacta taagccggaa ttacaagctc agacaactct cctcaatttc
1800
acagtcacag aagatggtct agaagcccag ctgctggcag aggttgtcag tattgaaagg
1860
ccagatttgg agaaacttaa gttggtattg acaaagcacc aaaatgattt taaaattgag
1920
ctcaagtatc tggaagacga tctccttttg cgcctttctg cggcagaggg aagctttctg
1980
gatgacacca aactggtaga gagattggag gcaacaaaga ccaccgtggc agagatagag
2040
cacaaggtga ttgaagccaa agaaaatgaa agaaaaatca acgaggcccg agaatgttac
2100
agaccagtgg cagcaagagc atctcttctt tattttgtta ttaatgacct ccaaaaaatc
2160
aaccccctct accaattctc tttgaaggct tttaacgtgc tgttccacag agcgatcgag
2220
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2280
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2340
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2400
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2460
cagtcatgga gtgctatcaa ggcaattgcc gtcatggaag aatttcgagg catagaccga
2520
gatgtggaag gatctgccaa gcagtggagg aagtgggtag aatccgagtg tccagaaaaa
2580
gaaaaattac ctcaagaatg gaagaagaaa agtttaatac agaagctgat tcttctgaga
2640
gcaatgcgcc ctgacagaat gacgtatgct ctcagaaatt ttgtagagga aaaactgggt
2700
gcgaagtatg tggagaggac cagattggac ttagttaaag cattcgaaga aagcagccca   .
2760
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2820
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2880
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3060
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3120
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3180
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3240
ggcccagaat caacccaggc atgtcattga gagggatgaa gcaagttctt aatgttcgca
3300
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3360
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4801

gattctaatg accagtaaat atatttcagt ctcaccctaa cattaagaaa acttcagcta
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ctgtgtaggg aaagctaact aggtaacttc ttgaggaggt tgctttttt tttttttttt
3480

<210> 5618
<211> 1003
<212> PRT
<213> Homo sapiens

<400> 5618
His Lys Asp Ser Ile Ser Leu Phe Met Ala His Val His Thr Thr Val
1   5   10   15
Asn Glu Met Ser Thr Arg Tyr Tyr Gln Asn Glu Arg Arg His Asn Tyr
            20   25   30
Thr Thr Pro Lys Ser Phe Leu Glu Gln Ile Ser Leu Phe Lys Asn Leu
        35   40   45
Leu Lys Lys Lys Gln Asn Glu Val Ser Glu Lys Lys Glu Arg Leu Val
    50   55   60
Asn Gly Ile Gln Lys Leu Lys Thr Thr Ala Ser Gln Val Gly Asp Leu
65   70   75   80
Lys Ala Arg Leu Ala Ser Gln Glu Ala Glu Leu Gln Leu Arg Asn His
                85   90   95
Asp Ala Glu Ala Leu Ile Thr Lys Ile Gly Leu Gln Thr Glu Lys Val
                100   105   110
Ser Arg Glu Lys Thr Ile Ala Asp Ala Glu Glu Arg Lys Val Thr Ala
        115   120   125
Ile Gln Thr Glu Val Phe Gln Lys Gln Arg Glu Cys Glu Ala Asp Leu
    130   135   140
Leu Lys Ala Glu Pro Ala Leu Val Ala Ala Thr Ala Ala Leu Asn Thr
145   150   155   160
Leu Asn Arg Val Asn Leu Ser Glu Leu Lys Ala Phe Pro Asn Pro Pro
                165   170   175
Ile Ala Val Thr Asn Val Thr Ala Ala Val Met Val Leu Leu Ala Pro
                180   185   190
Arg Gly Arg Val Pro Lys Asp Arg Ser Trp Lys Ala Ala Lys Val Phe
            195   200   205
Met Gly Lys Val Asp Asp Phe Leu Gln Ala Leu Ile Asn Tyr Asp Lys
    210   215   220
Glu His Ile Pro Glu Asn Cys Leu Lys Val Val Asn Glu His Tyr Leu
225   230   235   240
Lys Asp Pro Glu Phe Asn Pro Asn Leu Ile Arg Thr Lys Ser Phe Ala
                245   250   255
Ala Ala Gly Leu Cys Ala Trp Val Ile Asn Ile Ile Lys Phe Tyr Glu
            260   265   270
Val Tyr Cys Asp Val Glu Pro Lys Arg Gln Ala Leu Ala Gln Ala Asn
        275   280   285
Leu Glu Leu Ala Ala Ala Thr Glu Lys Leu Glu Ala Ile Arg Lys Lys
    290   295   300
Leu Val Val Ser Ala Asn Tyr Asp Ile Glu Lys Ser Glu Lys Ile Arg
305   310   315   320
Trp Gly Gln Ser Ile Lys Ser Phe Glu Ala Gln Glu Lys Thr Leu Cys
                325   330   335
Gly Asp Val Leu Leu Thr Ala Ala Phe Val Ser Tyr Val Gly Pro Phe

4802

```
                    340                   345                   350
Thr Arg Gln Tyr Arg Gln Glu Leu Val His Cys Lys Trp Val Pro Phe
            355                   360                   365
Leu Gln Gln Lys Val Ser Ile Pro Leu Thr Glu Gly Leu Asp Leu Ile
        370                   375                   380
Ser Met Leu Thr Asp Asp Ala Thr Ile Ala Ala Trp Asn Asn Glu Gly
385                   390                   395                   400
Leu Pro Ser Asp Arg Met Ser Thr Glu Asn Ala Ala Ile Leu Thr His
                405                   410                   415
Cys Glu Arg Trp Pro Leu Val Ile Asp Pro Gln Gln Gln Gly Ile Lys
                420                   425                   430
Trp Ile Lys Asn Lys Tyr Gly Met Asp Leu Lys Val Thr His Leu Gly
            435                   440                   445
Gln Lys Gly Phe Leu Asn Ala Ile Glu Thr Ala Leu Ala Phe Gly Asp
        450                   455                   460
Val Ile Leu Ile Glu Asn Leu Glu Glu Thr Ile Asp Pro Val Leu Asp
465                   470                   475                   480
Pro Leu Leu Gly Arg Asn Thr Ile Lys Lys Gly Lys Tyr Ile Arg Ile
                485                   490                   495
Gly Asp Lys Glu Cys Glu Phe Asn Lys Asn Phe Arg Leu Ile Leu His
                500                   505                   510
Thr Lys Leu Ala Asn Pro His Tyr Lys Pro Glu Leu Gln Ala Gln Thr
            515                   520                   525
Thr Leu Leu Asn Phe Thr Val Thr Glu Asp Gly Leu Glu Ala Gln Leu
        530                   535                   540
Leu Ala Glu Val Val Ser Ile Glu Arg Pro Asp Leu Glu Lys Leu Lys
545                   550                   555                   560
Leu Val Leu Thr Lys His Gln Asn Asp Phe Lys Ile Glu Leu Lys Tyr
                565                   570                   575
Leu Glu Asp Asp Leu Leu Leu Arg Leu Ser Ala Ala Glu Gly Ser Phe
                580                   585                   590
Leu Asp Asp Thr Lys Leu Val Glu Arg Leu Glu Ala Thr Lys Thr Thr
            595                   600                   605
Val Ala Glu Ile Glu His Lys Val Ile Glu Ala Lys Glu Asn Glu Arg
        610                   615                   620
Lys Ile Asn Glu Ala Arg Glu Cys Tyr Arg Pro Val Ala Ala Arg Ala
625                   630                   635                   640
Ser Leu Leu Tyr Phe Val Ile Asn Asp Leu Gln Lys Ile Asn Pro Leu
                645                   650                   655
Tyr Gln Phe Ser Leu Lys Ala Phe Asn Val Leu Phe His Arg Ala Ile
                660                   665                   670
Glu Gln Ala Asp Lys Val Glu Asp Met Gln Gly Arg Ile Ser Ile Leu
            675                   680                   685
Met Glu Ser Ile Thr His Ala Val Phe Leu Tyr Thr Ser Gln Ala Leu
        690                   695                   700
Phe Glu Lys Asp Lys Leu Thr Phe Leu Ser Gln Met Ala Phe Gln Ile
705                   710                   715                   720
Leu Leu Arg Lys Lys Glu Ile Asp Pro Leu Glu Leu Asp Phe Leu Leu
                725                   730                   735
Arg Phe Thr Val Glu His Thr His Leu Ser Pro Val Asp Phe Leu Thr
                740                   745                   750
Ser Gln Ser Trp Ser Ala Ile Lys Ala Ile Ala Val Met Glu Glu Phe
            755                   760                   765
Arg Gly Ile Asp Arg Asp Val Glu Gly Ser Ala Lys Gln Trp Arg Lys
```

```
          770                   775                    780
Trp Val Glu Ser Glu Cys Pro Glu Lys Glu Lys Leu Pro Gln Glu Trp
785                790                   795                   800
Lys Lys Lys Ser Leu Ile Gln Lys Leu Ile Leu Leu Arg Ala Met Arg
              805                    810                   815
Pro Asp Arg Met Thr Tyr Ala Leu Arg Asn Phe Val Glu Glu Lys Leu
              820                    825                   830
Gly Ala Lys Tyr Val Glu Arg Thr Arg Leu Asp Leu Val Lys Ala Phe
          835                    840                   845
Glu Glu Ser Ser Pro Ala Thr Pro Ile Phe Phe Ile Leu Ser Pro Gly
          850                    855                   860
Val Asp Ala Leu Lys Asp Leu Glu Ile Leu Gly Lys Arg Leu Gly Phe
865                    870                   875                   880
Thr Ile Asp Ser Gly Lys Phe His Asn Val Ser Leu Gly Gln Gly Gln
              885                    890                   895
Glu Thr Val Ala Glu Val Ala Leu Glu Lys Ala Ser Lys Gly Gly His
          900                    905                   910
Trp Val Ile Leu Gln Asn Val His Leu Val Ala Lys Trp Leu Gly Thr
          915                    920                   925
Leu Glu Lys Leu Leu Glu Arg Phe Ser Gln Gly Ser His Arg Asp Tyr
          930                    935                   940
Arg Val Phe Met Ser Ala Glu Ser Ala Pro Thr Pro Asp Glu His Ile
945                    950                   955                   960
Ile Pro Gln Gly Leu Leu Glu Asn Ser Ile Lys Ile Thr Asn Glu Pro
              965                    970                   975
Pro Thr Gly Met Leu Ala Asn Leu His Ala Ala Leu Tyr Asn Phe Asp
              980                    985                   990
Gln Val Arg Lys Arg Ser Arg Leu Gly Arg Gln
          995                   1000
```

```
<210> 5619
<211> 1219
<212> DNA
<213> Homo sapiens
```

```
<400> 5619
aagccggaga gctggagctt tgaagccacc ccggtcaaag gatgctgagt ccggagcgcc
60
tagccctacc ggactacgag tatctggctc agcgacatgt cctcacctac atggaggatg
120
cagtgtgcca gctgctagaa aacagggaag atattagcca atatggaatt gccaggttct
180
tcactgaata ttttaacagt gtatgccagg gaacacacat tctctttcga gaattcagct
240
tcgtccaagc cacccccac aataggtat catttttacg ggccttctgg agatgcttcc
300
gaactgtggg caaaaatggc gatttgctga ccatgaaaga atatcactgt ttgctgcaat
360
tactgtgtcc tgatttcccg ctggagctca ctcagaaagc agccaggatt gtgctcatgg
420
acgatgccat ggactgcttg atgtcttttt cagattcct ctttgccttc cagatccagt
480
tttactactc agaattcctg gacagtgtgg ctgccatcta tgaggacctg ctgtcaggca
540
```

```
agaaccccaa cacagtgatt gtgccgacgt cgtccagtgg gcagcaccgc caacgacctg
600
ccttgggcgg ggccggcacg ctggagggcg tggaggcgtc gctgttctac cagtgtctgg
660
aaaacctgtg tgatcggcac aagtacagct gcccacccc agcacttgtc aaagaggccc
720
tcagcaatgt tcagagactg accttctatg gattcctcat ggctctctca aagcaccgtg
780
gaatcaacca agccctcggt aagtcagagc taagcagccg tcagcctctc ctgccgcaca
840
acacagggag cagctggcct ctgttagcaa cacggctcca gaggggaagg ggcatcacca
900
tctctgcctt gacttcccag ggccggactc aatcccaggg agcaggaata tggcgacaaa
960
acatggctct tacacattcc catggtaggg gacagccctc cctgcctgca gccctgcccc
1020
aacatgaaac cacctcccca tagcagaagc gcccagcccc tcctcagaga accccagctc
1080
tgctttgggg agcagcctgc aggtcgggca gacacaggac tatttactca gtgacgctag
1140
agattatata tcagagagac ctgaatccca tttataaaca aggcaaaggt gtgtctgcgg
1200
agaccttttt tccaagctg
1219


<210> 5620
<211> 333
<212> PRT
<213> Homo sapiens

<400> 5620
Met Leu Ser Pro Glu Arg Leu Ala Leu Pro Asp Tyr Glu Tyr Leu Ala
1               5                   10                  15
Gln Arg His Val Leu Thr Tyr Met Glu Asp Ala Val Cys Gln Leu Leu
                20                  25                  30
Glu Asn Arg Glu Asp Ile Ser Gln Tyr Gly Ile Ala Arg Phe Phe Thr
            35                  40                  45
Glu Tyr Phe Asn Ser Val Cys Gln Gly Thr His Ile Leu Phe Arg Glu
        50                  55                  60
Phe Ser Phe Val Gln Ala Thr Pro His Asn Arg Val Ser Phe Leu Arg
65                  70                  75                  80
Ala Phe Trp Arg Cys Phe Arg Thr Val Gly Lys Asn Gly Asp Leu Leu
                85                  90                  95
Thr Met Lys Glu Tyr His Cys Leu Leu Gln Leu Leu Cys Pro Asp Phe
            100                 105                 110
Pro Leu Glu Leu Thr Gln Lys Ala Ala Arg Ile Val Leu Met Asp Asp
            115                 120                 125
Ala Met Asp Cys Leu Met Ser Phe Ser Asp Phe Leu Phe Ala Phe Gln
        130                 135                 140
Ile Gln Phe Tyr Tyr Ser Glu Phe Leu Asp Ser Val Ala Ala Ile Tyr
145                 150                 155                 160
Glu Asp Leu Leu Ser Gly Lys Asn Pro Asn Thr Val Ile Val Pro Thr
                165                 170                 175
Ser Ser Ser Gly Gln His Arg Gln Arg Pro Ala Leu Gly Gly Ala Gly
```

```
           180                    185                    190
Thr Leu Glu Gly Val Glu Ala Ser Leu Phe Tyr Gln Cys Leu Glu Asn
       195                    200                    205
Leu Cys Asp Arg His Lys Tyr Ser Cys Pro Pro Pro Ala Leu Val Lys
   210                    215                    220
Glu Ala Leu Ser Asn Val Gln Arg Leu Thr Phe Tyr Gly Phe Leu Met
225                    230                    235                    240
Ala Leu Ser Lys His Arg Gly Ile Asn Gln Ala Leu Gly Lys Ser Glu
               245                    250                    255
Leu Ser Ser Arg Gln Pro Leu Leu Pro His Asn Thr Gly Ser Ser Trp
           260                    265                    270
Pro Leu Leu Ala Thr Arg Leu Gln Arg Gly Arg Gly Ile Thr Ile Ser
       275                    280                    285
Ala Leu Thr Ser Gln Gly Arg Thr Gln Ser Gln Gly Ala Gly Ile Trp
   290                    295                    300
Arg Gln Asn Met Ala Leu Thr His Ser His Gly Arg Gly Gln Pro Ser
305                    310                    315                    320
Leu Pro Ala Ala Leu Pro Gln His Glu Thr Thr Ser Pro
               325                    330
```

```
<210> 5621
<211> 456
<212> DNA
<213> Homo sapiens

<400> 5621
tttttgtgaa atagaattta ttgtggctct gattatgtac acgtgagatg gcctggctgg
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gccggccggg ctcacatggt ttgtacaata aatacatctg tggggcgggc tctccgcagc
120
cgggaagggc caccgccacg gttcagtcca gcttccgggc tcccagcttc atggggccct
180
tggccacctt cctctcggcg cgtttggcct ccatctcccg ccgccgctcc tcgcgcttct
240
tccgggccag ctcagccttg acctgtcctg ggtgctggga cgtgcagaca gggtagcgaa
300
ggggtcgccc ttgtcgctgg actctgggcc accccagtta tactcgctgg ccagccgtgt
360
accgtcagga ggtggctcct gggagcttgg ctgaacccgt ggcggtggcc cttcccggct
420
gcggagagcc cgccccacag atgtatttat tgtaca
456
```

```
<210> 5622
<211> 82
<212> PRT
<213> Homo sapiens

<400> 5622
Met Ala Trp Leu Gly Arg Pro Gly Ser His Gly Leu Tyr Asn Lys Tyr
1               5                    10                    15
Ile Cys Gly Ala Gly Ser Pro Gln Pro Gly Arg Ala Thr Ala Thr Val
               20                    25                    30
Gln Ser Ser Phe Arg Ala Pro Ser Phe Met Gly Pro Leu Ala Thr Phe
```

4806

```
          35                    40                    45
Leu Ser Ala Arg Leu Ala Ser Ile Ser Arg Arg Arg Ser Ser Arg Phe
      50                    55                    60
Phe Arg Ala Ser Ser Ala Leu Thr Cys Pro Gly Cys Trp Asp Val Gln
65                    70                    75                    80
Thr Gly


<210> 5623
<211> 357
<212> DNA
<213> Homo sapiens

<400> 5623
nctggaagaa ctcgtcatgc tctttgtagc gtggtgcttc tgttgctcac aggacaactt
60
gcctttgatg attttcaaga gagttgtgct atgatgtggc aaaagtatgc aggaagcagg
120
cggtcaatgc ctctgggagc aaggatcctt ttccacggtg tgttctatgc cgggggcttt
180
gccattgtgt attacctcat tcaaaagttt cattccaggg ctttatatta caagttggca
240
gtggagcagc tgcagagcca tcccgaggca caggaagctc tgggccctcc tctcaacatc
300
cattatctca agctcatcga cagggaaaac ttcgtggaca ttgttgatgc caagttg
357


<210> 5624
<211> 88
<212> PRT
<213> Homo sapiens

<400> 5624
Met Trp Gln Lys Tyr Ala Gly Ser Arg Arg Ser Met Pro Leu Gly Ala
  1               5                    10                    15
Arg Ile Leu Phe His Gly Val Phe Tyr Ala Gly Gly Phe Ala Ile Val
                20                    25                    30
Tyr Tyr Leu Ile Gln Lys Phe His Ser Arg Ala Leu Tyr Tyr Lys Leu
          35                    40                    45
Ala Val Glu Gln Leu Gln Ser His Pro Glu Ala Gln Glu Ala Leu Gly
      50                    55                    60
Pro Pro Leu Asn Ile His Tyr Leu Lys Leu Ile Asp Arg Glu Asn Phe
65                    70                    75                    80
Val Asp Ile Val Asp Ala Lys Leu
                85


<210> 5625
<211> 1017
<212> DNA
<213> Homo sapiens

<400> 5625
gccgactcgt ggtacctggc gcttctgggc ttcgctgagc acttccgcac ttccagcccg
60
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cccaaaatcc gcctgtgcgt gcactgcctg caggccgtgt tccccttcaa gccgccgcag
120
cgcatcgagg cccgtacaca cctgcagctg ggctccgttc tctatcacca caccaagaac
180
agcgagcagg cgcgcagcca cctggagaag gcgtggttga tatcacagca aatcccacag
240
ttcgaagatg ttaaatttga agcagcaagt ctgttgtctg aattgtactg tcaagagaat
300
tccgttgatg cagcaaagcc gctgctgcgg aaggcgatcc agatctcaca gcagacccca
360
tattggcact gccgcctgct cttccagctc gctcaactgc acacgcttga gaaggacctg
420
gtgtcggcct gtgacctcct gggtgtaggg gccgagtacg cccgggtggt gggatctgaa
480
tacacacggg cgctgttcct cctcagcaag gggatgctgc tgctgatgga gcgaaagctg
540
caggaggtgc acccgctgct gaccctctgc gggcagatcg tggagaactg gcaggggaac
600
cccatccaga aggagtcgct gcgtgtcttc ttcctggtgc tccaggtcac ccactatctg
660
gatgccgggc aggtgaagag cgtgaagccg tgtctgaagc agctgcagca gtgcatccag
720
accatctcca cactgcacga tgatgagatc ctgcccagca accccgctga cctcttccac
780
tggctgccca aggagcacat gtgtgtgctt gtctacctgg tgactgtgat gcactccatg
840
caggccggct acctggagaa ggcgcagaag tacacggaca aggccctcat gcagctggag
900
aagctcaaga tgctggactg cagccccatc ctgtcatcct tccaagtgat cctgctggag
960
cacatcatca tgtgccgcct tgtcacgggt cacaaggcca cggcgctgca ggagatc
1017
```

<210> 5626
<211> 339
<212> PRT
<213> Homo sapiens

<400> 5626

```
Ala Asp Ser Trp Tyr Leu Ala Leu Leu Gly Phe Ala Glu His Phe Arg
1               5                   10                  15
Thr Ser Ser Pro Pro Lys Ile Arg Leu Cys Val His Cys Leu Gln Ala
            20                  25                  30
Val Phe Pro Phe Lys Pro Pro Gln Arg Ile Glu Ala Arg Thr His Leu
            35                  40                  45
Gln Leu Gly Ser Val Leu Tyr His His Thr Lys Asn Ser Glu Gln Ala
        50                  55                  60
Arg Ser His Leu Glu Lys Ala Trp Leu Ile Ser Gln Gln Ile Pro Gln
65                  70                  75                  80
Phe Glu Asp Val Lys Phe Glu Ala Ala Ser Leu Leu Ser Glu Leu Tyr
                85                  90                  95
Cys Gln Glu Asn Ser Val Asp Ala Ala Lys Pro Leu Leu Arg Lys Ala
                100                 105                 110
Ile Gln Ile Ser Gln Gln Thr Pro Tyr Trp His Cys Arg Leu Leu Phe
```

```
         115                    120                    125
Gln Leu Ala Gln Leu His Thr Leu Glu Lys Asp Leu Val Ser Ala Cys
         130                    135                    140
Asp Leu Leu Gly Val Gly Ala Glu Tyr Ala Arg Val Val Gly Ser Glu
145                    150                    155                    160
Tyr Thr Arg Ala Leu Phe Leu Leu Ser Lys Gly Met Leu Leu Leu Met
                  165                    170                    175
Glu Arg Lys Leu Gln Glu Val His Pro Leu Leu Thr Leu Cys Gly Gln
              180                    185                    190
Ile Val Glu Asn Trp Gln Gly Asn Pro Ile Gln Lys Glu Ser Leu Arg
              195                    200                    205
Val Phe Phe Leu Val Leu Gln Val Thr His Tyr Leu Asp Ala Gly Gln
         210                    215                    220
Val Lys Ser Val Lys Pro Cys Leu Lys Gln Leu Gln Gln Cys Ile Gln
225                    230                    235                    240
Thr Ile Ser Thr Leu His Asp Asp Glu Ile Leu Pro Ser Asn Pro Ala
                  245                    250                    255
Asp Leu Phe His Trp Leu Pro Lys Glu His Met Cys Val Leu Val Tyr
              260                    265                    270
Leu Val Thr Val Met His Ser Met Gln Ala Gly Tyr Leu Glu Lys Ala
              275                    280                    285
Gln Lys Tyr Thr Asp Lys Ala Leu Met Gln Leu Glu Lys Leu Lys Met
         290                    295                    300
Leu Asp Cys Ser Pro Ile Leu Ser Ser Phe Gln Val Ile Leu Leu Glu
305                    310                    315                    320
His Ile Ile Met Cys Arg Leu Val Thr Gly His Lys Ala Thr Ala Leu
                  325                    330                    335
Gln Glu Ile
```

```
<210> 5627
<211> 1401
<212> DNA
<213> Homo sapiens
```

```
<400> 5627
nctctcacac tgtggaattc tctctatcag cctcaaagtc cagatttgga aagggagtct
60
cagcgagggg cagcagctgg cccaacccgg aggcagagcg gcaactgaac tctagccgga
120
aagagccagg gttatgtgca catgggaggt ggggaggaca ggggctgtat gtgaccctca
180
catctgttcc tcgcgcccca gatggcttct gctgcctgct ccatggaccc catcgacagc
240
tttgagctcc tggatctcct gtttgaccgg caggacggca tcctgagaca cgtggagctg
300
ggcgagggct ggggtcacgt caaggaccag gtcctgccaa accccgactc tgacgacttc
360
ctcagctcca tcctgggctc tggagactca ctgcccagct ccccactctg gtcccccgaa
420
ggcagtgata gtggcatctc cgaagacctc ccctccgacc cccaggacac ccctccacgc
480
agcggaccag ccacctcccc cgccggctgc catcctgccc agcctggcaa ggggccctgc
540
```

ctctcctatc atcctggcaa ctcttgctcc accacaaccc cagggccagt gatccaacaa
600
cagcatcacc tgggggcctc ctacctcctg cgacctgggg ctgggcactg tcaggagctg
660
gtgctcaccg aggatgagaa gaagctgctg gctaaagaag gcatcaccct gcccactcag
720
ctgcccctca ctaagtacga ggagcgagtg ctgaaaaaaa tccgccggaa aatccggaac
780
aagcagtcgg cgcaagaaag caggaagaag aagaaggaat atatcgatgg cctggagact
840
cggtcctgtt gctgtccttt gccctcatca tcctcccctc catcagccct tttggcccca
900
acaaaaccga gagccctggg gactttgcgc ctgtacgagt gttctccaga actttgcaca
960
acgatgctgc ctcccgcgtg gctgctgatg ctgtgccagg ctccgaggcc ccaggacccc
1020
gacccgaggc tgacacaacc cgagaagagt ctccaggaag ccccgggggca gactggggct
1080
tccaggacac cgcgaacctg accaattcga cggaggagct ggacaacgcc accctggtcc
1140
tgaggaatgc aacagagggg ctgggccagg tcgccctgct ggactgggtg gcgcctgggc
1200
cgagcactgg ctcaggacgt gcagggctgg aggcggcggg agacgagctg tgagccccac
1260
caggactatg ctcccaggcc cctctgccca ggggtgcctt ggggatgctg cactgggcag
1320
ctacccacct ggggatggga cgtgaggcca agaccccagc agagatgcca gaatggggga
1380
ggcacagctc atagccacac a
1401

<210> 5628
<211> 299
<212> PRT
<213> Homo sapiens

<400> 5628
Met Ala Ser Ala Ala Cys Ser Met Asp Pro Ile Asp Ser Phe Glu Leu
1   5   10   15
Leu Asp Leu Leu Phe Asp Arg Gln Asp Gly Ile Leu Arg His Val Glu
            20   25   30
Leu Gly Glu Gly Trp Gly His Val Lys Asp Gln Val Leu Pro Asn Pro
        35   40   45
Asp Ser Asp Asp Phe Leu Ser Ser Ile Leu Gly Ser Gly Asp Ser Leu
    50   55   60
Pro Ser Ser Pro Leu Trp Ser Pro Glu Gly Ser Asp Ser Gly Ile Ser
65   70   75   80
Glu Asp Leu Pro Ser Asp Pro Gln Asp Thr Pro Pro Arg Ser Gly Pro
                85   90   95
Ala Thr Ser Pro Ala Gly Cys His Pro Ala Gln Pro Gly Lys Gly Pro
                100   105   110
Cys Leu Ser Tyr His Pro Gly Asn Ser Cys Ser Thr Thr Thr Pro Gly
            115   120   125
Pro Val Ile Gln Gln Gln His His Leu Gly Ala Ser Tyr Leu Leu Arg

4810

```
      130                    135                    140
Pro Gly Ala Gly His Cys Gln Glu Leu Val Leu Thr Glu Asp Glu Lys
145                    150                    155                    160
Lys Leu Leu Ala Lys Glu Gly Ile Thr Leu Pro Thr Gln Leu Pro Leu
                  165                    170                    175
Thr Lys Tyr Glu Glu Arg Val Leu Lys Lys Ile Arg Arg Lys Ile Arg
                  180                    185                    190
Asn Lys Gln Ser Ala Gln Glu Ser Arg Lys Lys Lys Lys Glu Tyr Ile
                  195                    200                    205
Asp Gly Leu Glu Thr Arg Ser Cys Cys Cys Pro Leu Pro Ser Ser Ser
         210                    215                    220
Ser Pro Pro Ser Ala Leu Leu Ala Pro Thr Lys Pro Arg Ala Leu Gly
225                    230                    235                    240
Thr Leu Arg Leu Tyr Glu Cys Ser Pro Glu Leu Cys Thr Thr Met Leu
                  245                    250                    255
Pro Pro Ala Trp Leu Leu Met Leu Cys Gln Ala Pro Arg Pro Gln Asp
                  260                    265                    270
Pro Asp Pro Arg Leu Thr Gln Pro Glu Lys Ser Leu Gln Glu Ala Pro
         275                    280                    285
Gly Gln Thr Gly Ala Ser Arg Thr Pro Arg Thr
         290                    295
```

```
<210> 5629
<211> 428
<212> DNA
<213> Homo sapiens

<400> 5629
gtgcacgacc ccactgaatc atcccacaac catggatggg agacacactc agtctccttt
60
aacagaagat aaagctgggg cttacagaga atgtacaact tggcccaggg cacaccagtt
120
agccatcagg ggcagngctg ctattcaggt ctgggactgt gggactccag agcccatgtt
180
ttttacgagg atgccatact gccacaatgg atggtgtctt tatctcctga tatatgattg
240
tgtgttggga ggcgtggggt ggcagctgga agaatggaga ggcatatttg tggaggatct
300
tcccccattc tctgctaccc tctcttggag ctcccagttc catctgagaa attatctact
360
ctgagaaatc gtcacaacac agcatggttg tgagtgcagt ggcagaagcc tgtgcctggt
420
tgtatggg
428


<210> 5630
<211> 110
<212> PRT
<213> Homo sapiens

<400> 5630
Met Asp Gly Arg His Thr Gln Ser Pro Leu Thr Glu Asp Lys Ala Gly
1                    5                    10                    15
Ala Tyr Arg Glu Cys Thr Thr Trp Pro Arg Ala His Gln Leu Ala Ile
```

4811

```
                    20                 25                 30
Arg Gly Xaa Ala Ala Ile Gln Val Trp Asp Cys Gly Thr Pro Glu Pro
            35                 40                 45
Met Phe Phe Thr Arg Met Pro Tyr Cys His Asn Gly Trp Cys Leu Tyr
        50                 55                 60
Leu Leu Ile Tyr Asp Cys Val Leu Gly Gly Val Gly Trp Gln Leu Glu
65                 70                 75                 80
Glu Trp Arg Gly Ile Phe Val Glu Asp Leu Pro Pro Phe Ser Ala Thr
                85                 90                 95
Leu Ser Trp Ser Ser Gln Phe His Leu Arg Asn Tyr Leu Leu
                100                105                110
```

<210> 5631
<211> 783
<212> DNA
<213> Homo sapiens

<400> 5631
acgcgtgccc agcacatgtg tgcacacgca gatgcaggag agaacacaca ccaccgtctc
60
tttgcacacg tgtgcccctg tccggcccgg ggggctcatc tctccttcac ggagagaatt
120
ctttttatta cgagtgaaca gatgaactaa ggtaagcggg tctcagcctt ccgctggtgc
180
agcatctcca cgcagggcct cagccccgtc ctggccttgc ctgaggactg caccatgggt
240
gttccttggg catggaggag gcagcaggaa ggggtgacag gagcaggagc aggtgcaggg
300
cacctcacac cacaggcctc ccccacctct gagctgccaa cagccaagac tcctggcgag
360
gccgggagag gaggggtgag agggaaggag ggtctctgtg aaagcaagcc caccccccag
420
agcagagcag agacccaggt ctgcaaatca caccctcccc ccacgagttc ctcctttgag
480
gccagcagca cccgagggag ggcaggggct gcacagagac cagagaaagg aaaaccccac
540
agaagaaaac tcaaagcatc agtcccatgc gtgtctgctg aacgagtgaa tgggcccaaa
600
ggctcttctc tacaaacggc acgcatccat ccgacagggg gccacaggac acggccgggg
660
ccgtctgcgt ctgtgcctgt gcagcccaca ccagtgcagc ccggggccct ctcagacctc
720
accacacgcg tgcccagcac atgtgtgcac acgcagatgc aggagagaac acacaccacc
780
gtc
783

<210> 5632
<211> 183
<212> PRT
<213> Homo sapiens

<400> 5632
Met Gly Val Pro Trp Ala Trp Arg Arg Gln Gln Glu Gly Val Thr Gly

4812

```
  1                    5                    10                    15
Ala Gly Ala Gly Ala Gly His Leu Thr Pro Gln Ala Ser Pro Thr Ser
               20                    25                    30
Glu Leu Pro Thr Ala Lys Thr Pro Gly Glu Ala Gly Arg Gly Gly Val
               35                    40                    45
Arg Gly Lys Glu Gly Leu Cys Glu Ser Lys Pro His Pro Gln Ser Arg
       50                    55                    60
Ala Glu Thr Gln Val Cys Lys Ser His Pro Pro Pro Thr Ser Ser Ser
65                    70                    75                    80
Phe Glu Ala Ser Ser Thr Arg Gly Arg Ala Gly Ala Ala Gln Arg Pro
               85                    90                    95
Glu Lys Gly Lys Pro His Arg Arg Lys Leu Lys Ala Ser Val Pro Cys
              100                   105                   110
Val Ser Ala Glu Arg Val Asn Gly Pro Lys Gly Ser Ser Leu Gln Thr
              115                   120                   125
Ala Arg Ile His Pro Thr Gly Gly His Arg Thr Arg Pro Gly Pro Ser
       130                   135                   140
Ala Ser Val Pro Val Gln Pro Thr Pro Val Gln Pro Gly Ala Leu Ser
145                   150                   155                   160
Asp Leu Thr Thr Arg Val Pro Ser Thr Cys Val His Thr Gln Met Gln
               165                   170                   175
Glu Arg Thr His Thr Thr Val
               180
```

<210> 5633
<211> 2181
<212> DNA
<213> Homo sapiens

<400> 5633
gccaatgtcc ctgtggccac tcagctgaga ccgagggcga cctgggcagc tgcgggtgtc
60
tgtcacctcc gtgtcccaca tagatgccag gctctgcttc tgtggttctg gaggtcatta
120
gtcaattgta tgtggtgctg tctgtcctcc tgattgcaga ggaggaagga accccttaaa
180
tgagcgggtt ctgagtgctg gggccgctgg tctgctctgc ctggtgggat tctccagtgc
240
tggcttcatc tgtgccccag ccccactctc accaacaagg agggcgtgaa aatgacaagg
300
aatccatccc tagagttcac aggagatcta gggcagagtt tccaagctgc agctgctctg
360
gccctgtgtg agctgctgct ctgaggaagc cccaggctga ggtagctacc aggcggaggc
420
tgggtttgga ggcctccaca tcagggaatt gagcggtagg ggtttcagcc ttcacgttgg
480
tcgccgcact gtatgggaag tggggtctgg ggtctgcttg cccagtctca ccgtcctctt
540
cctccccaaa gccgcctgga taaggggctg ccgcactgg tgcgggagcg tggcgcggat
600
ctggtggtca tcgagggcat gggccgtgct gtccacacaa actaccacgc agccctgcgc
660
tgcgagagcc tcaagctggc cgtcatcaag aacgcgtggc tggccgagcg gctgggcggc
720

```
cggctcttca gcgccatctt caagtacgag gtcccagccg agtgaggcgc tgcagctgcc
780
ggactcttct gcttgtcact tgtccgagtg gcttcagaga ttaaaggggc cccctcataa
840
atgtgcctta attttcgcag ataacagggg gaatagacat cattttggga gtcttcccct
900
ttgtcaggga gctactcctt agagggacag aggtcatcct ggcgtgcaac tcaggccccg
960
ccctgaacga cgtgacccac agcgagtccc tcatcgtggc agagcgtatt gcgggcatgg
1020
accctgaccg tgcgcagcct gctggacacc agggagcact gtctgaacga gttcaacttc
1080
ccggatccct actccaaagt gaagcagcgg gagaatggcg tggcgctgag gtgcttcccc
1140
ggggtcgtgc gctccctgga cgcgctgggc tgggaggaac ggcagctggc gctggtgaaa
1200
ggcctcctgg cggggaatgt cttcgactgg ggggccaaag ccgtgtctgc tgtccttgaa
1260
tccgacccct actttgggtt tgaagaagca aagaggaagt tacaagaaag accctggctc
1320
gtggattcct acagcgagtg gcttcagaga ttaaaggggc cccctcataa atgtgcctta
1380
attttcgcag ataacagtgg aatagacatc attttgggag tcttcccctt tgtcagggag
1440
ctactcctta gagggacaga ggtcatcctg gcgtgcaact caggccccgc cctgaacgac
1500
gtgacccaca gcgagtccct catcgtggca gagcgtattg cgggcatgga ccctgtcgtg
1560
cactctgcgc tccaggaaga gaggctgctg ctggtgcaga cgggctccag ctccccgtgc
1620
ctcgacctca gccgcctgga taaggggctg gccgcactgg tgcgggagcg tggcgcggat
1680
ctggtggtca tcgagggcat gggccgtgct gtccacacaa actaccacgc agccctgcgc
1740
tgcgagagcc tcaagctggc cgtcatcaag aacgcgtggc tggccgagcg gctgggcggc
1800
cggctcttca gcgtcatctt caagtacgag gtcccagccg agtgaggcgc tgcagctgcc
1860
ggactcttct gcttgtcact tgtcaggaat gtgttttac caccacaggg aaactgcgtt
1920
caaatcaacg tatttatatg gtactgctgt gacgcggcac atacacccca gccgcacaga
1980
tgcgtgtgac ccagaggcga gacgcagctt tgtcctggga gacgttcata ttggaatcta
2040
tttaactgct aaagaacctt ttatatatat atatatatat aaatagagag atctatacag
2100
gtatgtctga cgggacgcag caccgtgggc acgcaccaaa tagagttttt aaaagaggaa
2160
aaaaaactct atttggtgcg t
2181

<210> 5634
<211> 289
<212> PRT
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<213> Homo sapiens

<400> 5634
Pro Thr Ala Ser Pro Ser Ser Trp Gln Ser Val Leu Arg Ala Trp Thr
 1   5   10   15
Leu Thr Val Arg Ser Leu Leu Asp Thr Arg Glu His Cys Leu Asn Glu
                20   25   30
Phe Asn Phe Pro Asp Pro Tyr Ser Lys Val Lys Gln Arg Glu Asn Gly
            35   40   45
Val Ala Leu Arg Cys Phe Pro Gly Val Val Arg Ser Leu Asp Ala Leu
        50   55   60
Gly Trp Glu Glu Arg Gln Leu Ala Leu Val Lys Gly Leu Leu Ala Gly
65   70   75   80
Asn Val Phe Asp Trp Gly Ala Lys Ala Val Ser Ala Val Leu Glu Ser
                85   90   95
Asp Pro Tyr Phe Gly Phe Glu Glu Ala Lys Arg Lys Leu Gln Glu Arg
            100   105   110
Pro Trp Leu Val Asp Ser Tyr Ser Glu Trp Leu Gln Arg Leu Lys Gly
        115   120   125
Pro Pro His Lys Cys Ala Leu Ile Phe Ala Asp Asn Ser Gly Ile Asp
        130   135   140
Ile Ile Leu Gly Val Phe Pro Phe Val Arg Glu Leu Leu Leu Arg Gly
145   150   155   160
Thr Glu Val Ile Leu Ala Cys Asn Ser Gly Pro Ala Leu Asn Asp Val
                165   170   175
Thr His Ser Glu Ser Leu Ile Val Ala Glu Arg Ile Ala Gly Met Asp
                180   185   190
Pro Val Val His Ser Ala Leu Gln Glu Glu Arg Leu Leu Leu Val Gln
            195   200   205
Thr Gly Ser Ser Ser Pro Cys Leu Asp Leu Ser Arg Leu Asp Lys Gly
        210   215   220
Leu Ala Ala Leu Val Arg Glu Arg Gly Ala Asp Leu Val Val Ile Glu
225   230   235   240
Gly Met Gly Arg Ala Val His Thr Asn Tyr His Ala Ala Leu Arg Cys
                245   250   255
Glu Ser Leu Lys Leu Ala Val Ile Lys Asn Ala Trp Leu Ala Glu Arg
            260   265   270
Leu Gly Gly Arg Leu Phe Ser Val Ile Phe Lys Tyr Glu Val Pro Ala
        275   280   285
Glu

<210> 5635
<211> 614
<212> DNA
<213> Homo sapiens

<400> 5635
nntgtgaaag atgttgcaga agtgttccag aagtggctga agatagaagg aaaaaagtgc
60
cactgcctat cagaaaaaac aaaacaaaac atgggaaata caaccaccaa attccgtaaa
120
gcactcatca atggtgatga aaacctggcc tgccaaatat atgaaaacaa tcctcagcta
180

aaagaatctc ttgatccaaa tacatcttat ggggagccct accagcacaa tactccatta
240
cattatgctg ctagacatgg aatgaataaa atattaggag atgatttcag aagagcagat
300
tgtctgcaga tgatcttaaa atggaaagga gcaaaacttg accagggtga atatgagaga
360
gcagctattg atgctgttga taacaaaaaa aacacaccct tgcactatgc tgctgcctca
420
gggatgaaag cctgtgtaga aaaacatgga ggagacttgt ttgctgagaa tgaaaataaa
480
gatactcctt gtgattgtgc tgaaaagcaa caccacaaag atttggccct caatctggaa
540
tctcaaatgg tattctcacg ggatcccgag gctgaagaaa tagaagctga atatgctgca
600
ttagacaaac gaga
614

<210> 5636
<211> 204
<212> PRT
<213> Homo sapiens

<400> 5636
Xaa Val Lys Asp Val Ala Glu Val Phe Gln Lys Trp Leu Lys Ile Glu
1   5   10   15
Gly Lys Lys Cys His Cys Leu Ser Glu Lys Thr Lys Gln Asn Met Gly
            20   25   30
Asn Thr Thr Thr Lys Phe Arg Lys Ala Leu Ile Asn Gly Asp Glu Asn
        35   40   45
Leu Ala Cys Gln Ile Tyr Glu Asn Asn Pro Gln Leu Lys Glu Ser Leu
    50   55   60
Asp Pro Asn Thr Ser Tyr Gly Glu Pro Tyr Gln His Asn Thr Pro Leu
65   70   75   80
His Tyr Ala Ala Arg His Gly Met Asn Lys Ile Leu Gly Asp Asp Phe
                85   90   95
Arg Arg Ala Asp Cys Leu Gln Met Ile Leu Lys Trp Lys Gly Ala Lys
            100   105   110
Leu Asp Gln Gly Glu Tyr Glu Arg Ala Ala Ile Asp Ala Val Asp Asn
            115   120   125
Lys Lys Asn Thr Pro Leu His Tyr Ala Ala Ala Ser Gly Met Lys Ala
        130   135   140
Cys Val Glu Lys His Gly Gly Asp Leu Phe Ala Glu Asn Glu Asn Lys
145   150   155   160
Asp Thr Pro Cys Asp Cys Ala Glu Lys Gln His His Lys Asp Leu Ala
                165   170   175
Leu Asn Leu Glu Ser Gln Met Val Phe Ser Arg Asp Pro Glu Ala Glu
            180   185   190
Glu Ile Glu Ala Glu Tyr Ala Ala Leu Asp Lys Arg
        195   200

<210> 5637
<211> 825
<212> DNA
<213> Homo sapiens

<400> 5637
acgcgtccga ggctcctcaa acccagggcc ccacctggca cgtggaggaa gaagagaagg
60
gcaggaggca ggtgcccagg tgggagcccc ctctgtgccc cctgggagtg tccccccgc
120
ccaggtactc agggccctgc cctcgtggcc ttgtccgctc gccgcgggtg gggctggcac
180
aaggcccgtt ttggaggaag tggaggctcc caggagaaag gcagtggctg tgatcgcaca
240
gcccaggctc tgccctgcac tgccctggac cacgaggctg cccaccccag acaggtggga
300
cccctttccc gcatgcagac tctgagcagc agcttcctgt gacccccacc gcgtcctgct
360
cctcaggctc atgccctgcg ggaacagaag ccaagacccg gtagaaaatc caaggtgttt
420
aaatataaat aagagcgatt cccacagccc cacggtgctg gccagcctca caggtgcccg
480
ctggttctgt gacccatccc aggcacacgc tcccctggct gggcgcctgg ccagggctcc
540
cctgtggctg gcgtgtggag acacgtgggc ccttctccac gtgcccacga gggccgtagc
600
aggctccaag gaggcccagc cccggccagc ctgtgtggac cccgccggcc tgcgcgcccc
660
ggagctgctg actgtgtcag agcccggctg cccagcgccc cggcgccctc cctccagctg
720
cccagcctgg gatccgtccg ctgtctgtct cctgaaccag ggagtctgac ccactcacag
780
ctcccatggg gtccgtgcag ccaaggcccc gcagccacac tcact
825

<210> 5638
<211> 132
<212> PRT
<213> Homo sapiens

<400> 5638
Met Pro Cys Gly Asn Arg Ser Gln Asp Pro Val Glu Asn Pro Arg Cys
1   5   10   15
Leu Asn Ile Asn Lys Ser Asp Ser His Ser Pro Thr Val Leu Ala Ser
            20   25   30
Leu Thr Gly Ala Arg Trp Phe Cys Asp Pro Ser Gln Ala His Ala Pro
        35   40   45
Leu Ala Gly Arg Leu Ala Arg Ala Pro Leu Trp Leu Ala Cys Gly Asp
    50   55   60
Thr Trp Ala Leu Leu His Val Pro Thr Arg Ala Val Ala Gly Ser Lys
65   70   75   80
Glu Ala Gln Pro Arg Pro Ala Cys Val Asp Pro Ala Gly Leu Arg Ala
                85   90   95
Pro Glu Leu Leu Thr Val Ser Glu Pro Gly Cys Pro Ala Pro Arg Arg
                100   105   110
Pro Pro Ser Ser Cys Pro Ala Trp Asp Pro Ser Ala Val Cys Leu Leu
            115   120   125
Asn Gln Gly Val

4817

130

<210> 5639
<211> 2433
<212> DNA
<213> Homo sapiens

<400> 5639
natagctaca aaataaaaaa aactaattca aacaaatgta cttatttaat ccaatatatc
60
ccaacaatta ttgcagcaca taatcaatat aaacattata tatatgaact atttgacact
120
atttgacatt tcttcttcca catccagtgt atctgacatt tagcgcacat ttgatttgca
180
ctcacccact ttgaggagct caattgccgc ttaagtccgt ggctagtggc tgccctaaag
240
ttcagcaccg ccacggagct ttgggtccac ccggactgta aaaggaagc acttccgtta
300
gcatgacccg gcctgaagta gcggcggaac ggaagtcgct tgtgtatgaa cgcagcggcg
360
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420
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780
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900
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1020
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1080
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1140
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1200
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1260
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1320
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1380

```
tcggaggtcc agttcaacag tgcagtgcct accaatctca gtcgtggctt taccaccaac
1440
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1500
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1620
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1980
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2040
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2100
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2160
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2280
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2340
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2433
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<210> 5640
<211> 540
<212> PRT
<213> Homo sapiens

<400> 5640

```
Met Cys Pro Ser Pro Glu Arg Gln Glu Asp Gly Ala Arg Lys Asp Phe
1               5                   10                  15
Ser Ser Arg Leu Ala Ala Gly Pro Thr Phe Gln His Phe Leu Lys Ser
            20                  25                  30
Ala Ser Ala Pro Gln Glu Lys Leu Ser Ser Glu Val Glu Asp Pro Pro
        35                  40                  45
Pro Tyr Leu Met Met Asp Glu Leu Leu Gly Arg Gln Arg Lys Val Tyr
    50                  55                  60
Leu Glu Thr Tyr Gly Cys Gln Met Asn Val Asn Asp Thr Glu Ile Ala
65                  70                  75                  80
Trp Ser Ile Leu Gln Lys Ser Gly Tyr Leu Arg Pro Val Thr Ser Lys
```

```
                    85                  90                  95
Ala Asp Val Ile Leu Leu Val Thr Cys Ser Ile Arg Glu Lys Ala Glu
            100                 105                 110
Gln Thr Ile Trp Asn Arg Leu His Gln Leu Lys Ala Leu Lys Thr Arg
            115                 120                 125
Arg Pro Arg Ser Arg Val Pro Leu Arg Ile Gly Ile Leu Gly Cys Met
        130                 135                 140
Ala Glu Arg Leu Lys Glu Glu Ile Leu Asn Arg Glu Lys Met Val Asp
145                 150                 155                 160
Ile Leu Ala Gly Pro Asp Ala Tyr Arg Asp Leu Pro Arg Leu Leu Ala
                165                 170                 175
Val Ala Glu Ser Gly Gln Gln Ala Ala Asn Val Leu Leu Ser Leu Asp
            180                 185                 190
Glu Thr Tyr Ala Asp Val Met Pro Val Gln Thr Ser Ala Ser Ala Thr
            195                 200                 205
Ser Ala Phe Val Ser Ile Met Arg Gly Cys Asp Asn Met Cys Ser Tyr
        210                 215                 220
Cys Ile Val Pro Phe Thr Arg Gly Arg Glu Arg Ser Arg Pro Ile Ala
225                 230                 235                 240
Ser Ile Leu Glu Glu Val Lys Lys Leu Ser Glu Gln Gly Leu Lys Glu
                245                 250                 255
Val Thr Leu Leu Gly Gln Asn Val Asn Ser Phe Arg Asp Asn Ser Glu
            260                 265                 270
Val Gln Phe Asn Ser Ala Val Pro Thr Asn Leu Ser Arg Gly Phe Thr
            275                 280                 285
Thr Asn Tyr Lys Thr Lys Gln Gly Gly Leu Arg Phe Ala His Leu Leu
        290                 295                 300
Asp Gln Val Ser Arg Val Asp Pro Glu Met Arg Ile Arg Phe Thr Ser
305                 310                 315                 320
Pro His Pro Lys Asp Phe Pro Asp Glu Val Leu Gln Leu Ile His Glu
                325                 330                 335
Arg Asp Asn Ile Cys Lys Gln Ile His Leu Pro Ala Gln Ser Gly Ser
            340                 345                 350
Ser Arg Val Leu Glu Ala Met Arg Arg Gly Tyr Ser Arg Glu Ala Tyr
            355                 360                 365
Val Glu Leu Val His His Ile Arg Glu Ser Ile Pro Gly Val Ser Leu
        370                 375                 380
Ser Ser Asp Phe Ile Ala Gly Phe Cys Gly Glu Thr Glu Glu Asp His
385                 390                 395                 400
Val Gln Thr Val Ser Leu Leu Arg Glu Val Gln Tyr Asn Met Gly Phe
                405                 410                 415
Leu Phe Ala Tyr Ser Met Arg Gln Lys Thr Arg Ala Tyr His Arg Leu
            420                 425                 430
Lys Asp Asp Val Pro Glu Glu Val Lys Leu Arg Arg Leu Glu Glu Leu
            435                 440                 445
Ile Thr Ile Phe Arg Glu Glu Ala Thr Lys Ala Asn Gln Thr Ser Val
        450                 455                 460
Gly Cys Thr Gln Leu Val Leu Val Glu Gly Leu Ser Lys Arg Ser Ala
465                 470                 475                 480
Thr Asp Leu Cys Gly Arg Asn Asp Gly Asn Leu Lys Val Ile Phe Pro
                485                 490                 495
Asp Ala Glu Met Glu Asp Val Asn Asn Pro Gly Leu Arg Val Arg Ala
            500                 505                 510
Gln Pro Gly Asp Tyr Val Leu Val Lys Ile Thr Xaa Gln Pro Val Leu
```

                                    4820

```
            515                  520                  525
Arg His Leu Gly Asp Met Phe Ser Ala Gly Pro Leu
        530                  535                  540
```

```
<210> 5641
<211> 293
<212> DNA
<213> Homo sapiens
```

```
<400> 5641
gcgtcgcata cagccaacct gtgcgtgctg ctgtaccgca gcggcgtcaa agtggtcacc
60
ttctgtggcc acgcgtccaa aaccaatcag gtcaactcgg gcggtgtgct gctgaggttg
120
caggtgggcg aggaggtgtg gctggctggg gcacccctgg catccctgga gagccaggtg
180
aggagggcag atacaagcag aaattccagt cagtgttcac ggtcactcgg cagacccacc
240
agcccctgc acccaacagc ctgatcagat tcaacgcggg cctcaccaac ccg
293
```

```
<210> 5642
<211> 87
<212> PRT
<213> Homo sapiens
```

```
<400> 5642
Ala Ser His Thr Ala Asn Leu Cys Val Leu Leu Tyr Arg Ser Gly Val
1               5                   10                  15
Lys Val Val Thr Phe Cys Gly His Ala Ser Lys Thr Asn Gln Val Asn
            20                  25                  30
Ser Gly Gly Val Leu Leu Arg Leu Gln Val Gly Glu Glu Val Trp Leu
        35                  40                  45
Ala Gly Ala Pro Leu Ala Ser Leu Glu Ser Gln Val Arg Arg Ala Asp
    50                  55                  60
Thr Ser Arg Asn Ser Ser Gln Cys Ser Arg Ser Leu Gly Arg Pro Thr
65                  70                  75                  80
Ser Pro Leu His Pro Thr Ala
                85
```

```
<210> 5643
<211> 1218
<212> DNA
<213> Homo sapiens
```

```
<400> 5643
nnacgcgtga ggagcctgag gcggcggcgg gggtggctcc gcgcgcggtg gtctcggggg
60
caaaataaca tggcagccag acgaattaca caggagactt ttgatgctgt attacaagaa
120
aaagccaaac gatatcacat ggatgccagt ggtgaggctg taagcgaaac tcttcagttt
180
aaagctcaag atctcttaag ggcagtccca agatccagag cagagatgta tgatgacgtc
240
```

```
cacagcgatg gcagatactc cctcagtgga tctgtagctc actctagaga tgccggaaga
300
gaaggcctga gaagtgacgt atttccaggg ccttccttca gatcaagcaa cccttccatc
360
agtgatgaca gctactttcg caaagaatgt ggccgggatc tggaattttc tcactctgat
420
tctcgggacc aggtcattgg ccaccggaaa ttggggcatt tccgttctca ggactggaaa
480
tttgcgctcc gtggttcttg ggaacaagac tttggccatc cagtttctca agagtcctct
540
tggtcacagg agtatagttt tggtccctct gcagttttgg gggactttgg atcttccagg
600
ctgattgaga aagagtgttt ggagaaggag agtcgggatt atgacgtgga ccatcctggg
660
gaggctgact ctgtgcttag gggcagcagt caagtccagg ccagaggtcg agctctaaac
720
atcgttgacc aggaaggttc cctcctagga aaggggagac tcagggcct gctcacagct
780
aaggggggtg ttgggaaact tgtcacattg agaaatgtga gcacaaaaaa aatacccacc
840
gtgaatcgta ttactcccaa aactcagggc actaaccaaa tccagaaaaa cactccaagt
900
cctgatgtga ccctgggggac aaacccaggg acagaagata tccagttccc cattcagaag
960
atccctctgg ggctggatct gaagaatctt cggctcccca gaagaaagat gagctttgac
1020
atcatagata agtctgatgt tttttcaaga tttgggatag aaataatcaa atgggcagga
1080
ttccacacca taaaattaga ttattaaatt tttcccaaac ttttccagac tctctttgaa
1140
cttgaaacag aaacctgtgc taaaatgctt gcctcattca aatgttcctt aaaaccagag
1200
cacagagatt tttgcttt
1218


<210> 5644
<211> 202
<212> PRT
<213> Homo sapiens

<400> 5644
Trp Glu Gln Asp Phe Gly His Pro Val Ser Gln Glu Ser Ser Trp Ser
1               5                  10                  15
Gln Glu Tyr Ser Phe Gly Pro Ser Ala Val Leu Gly Asp Phe Gly Ser
            20                  25                  30
Ser Arg Leu Ile Glu Lys Glu Cys Leu Glu Lys Glu Ser Arg Asp Tyr
        35                  40                  45
Asp Val Asp His Pro Gly Glu Ala Asp Ser Val Leu Arg Gly Ser Ser
    50                  55                  60
Gln Val Gln Ala Arg Gly Arg Ala Leu Asn Ile Val Asp Gln Glu Gly
65                  70                  75                  80
Ser Leu Leu Gly Lys Gly Glu Thr Gln Gly Leu Leu Thr Ala Lys Gly
                85                  90                  95
Gly Val Gly Lys Leu Val Thr Leu Arg Asn Val Ser Thr Lys Lys Ile
```

4822

```
           100                   105                   110
Pro Thr Val Asn Arg Ile Thr Pro Lys Thr Gln Gly Thr Asn Gln Ile
       115                   120                   125
Gln Lys Asn Thr Pro Ser Pro Asp Val Thr Leu Gly Thr Asn Pro Gly
   130                   135                   140
Thr Glu Asp Ile Gln Phe Pro Ile Gln Lys Ile Pro Leu Gly Leu Asp
145                   150                   155                   160
Leu Lys Asn Leu Arg Leu Pro Arg Arg Lys Met Ser Phe Asp Ile Ile
                   165                   170                   175
Asp Lys Ser Asp Val Phe Ser Arg Phe Gly Ile Glu Ile Ile Lys Trp
               180                   185                   190
Ala Gly Phe His Thr Ile Lys Leu Asp Tyr
           195                   200
```

```
<210> 5645
<211> 156
<212> DNA
<213> Homo sapiens
```

```
<400> 5645
ccacgtccat cccgaagaag gaactgcagg tgggcggttt ttggcctggc acagagatgt
60
cctcagatca gcttcccctc tcccaggcaa gaggacacga gcactggcaa gttcacctgc
120
aaagtccccg gcctctacta ctttgtctac cacgcg
156
```

```
<210> 5646
<211> 52
<212> PRT
<213> Homo sapiens
```

```
<400> 5646
Pro Arg Pro Ser Arg Arg Arg Asn Cys Arg Trp Ala Val Phe Gly Leu
1               5                   10                  15
Ala Gln Arg Cys Pro Gln Ile Ser Phe Pro Ser Pro Arg Gln Glu Asp
               20                  25                  30
Thr Ser Thr Gly Lys Phe Thr Cys Lys Val Pro Gly Leu Tyr Tyr Phe
           35                  40                  45
Val Tyr His Ala
       50
```

```
<210> 5647
<211> 150
<212> DNA
<213> Homo sapiens
```

```
<400> 5647
cccatggggc cgggcaccct ggcattccca gggggtccca tggggccatt tttcccagga
60
aggcccaagg gggagccagg aatcccagcc attccgggga tccgaggacc caaagggcag
120
aagggagaac ccggcttacc cggccatccn
150
```

4823

<210> 5648
<211> 50
<212> PRT
<213> Homo sapiens

<400> 5648
Pro Met Gly Pro Gly Thr Leu Ala Phe Pro Gly Gly Pro Met Gly Pro
1   5   10   15
Phe Phe Pro Gly Arg Pro Lys Gly Glu Pro Gly Ile Pro Ala Ile Pro
            20   25   30
Gly Ile Arg Gly Pro Lys Gly Gln Lys Gly Glu Pro Gly Leu Pro Gly
        35   40   45
His Pro
    50

<210> 5649
<211> 345
<212> DNA
<213> Homo sapiens

<400> 5649
ngggacctgc aagcccgcgg ccagacctgc cagcgcgccg gccatggctg tcgccgccgc
60
aaccgcctgg tccctcggat cgcgcccagc ccagactcgg actcggacac agactcggag
120
gacccgagtc tccggcgcag cgcgggcggc ttgctccgct cgcaggtcat ccacagcggt
180
cacttcatgg tgtcgtcgcc gcacagcgac tcgctgcccc ggcggcgcga ccaggagggt
240
ccgtggggcc ctccgacttc gggccgcgca gtatcgaccc cacactcaca cgcctcttcg
300
agtgcttgag cctggcctac agtggcaagc tggggtctcc caagt
345

<210> 5650
<211> 100
<212> PRT
<213> Homo sapiens

<400> 5650
Met Ala Val Ala Ala Ala Thr Ala Trp Ser Leu Gly Ser Arg Pro Ala
1   5   10   15
Gln Thr Arg Thr Arg Thr Gln Thr Arg Arg Thr Arg Val Ser Gly Ala
            20   25   30
Ala Arg Ala Ala Cys Ser Ala Arg Arg Ser Ser Thr Ala Val Thr Ser
        35   40   45
Trp Cys Arg Arg Arg Thr Ala Thr Arg Cys Pro Gly Gly Ala Thr Arg
    50   55   60
Arg Val Arg Gly Ala Leu Arg Leu Arg Ala Ala Gln Tyr Arg Pro His
65   70   75   80
Thr His Thr Pro Leu Arg Val Leu Glu Pro Gly Leu Gln Trp Gln Ala
                85   90   95
Gly Val Ser Gln

4824

100

<210> 5651
<211> 615
<212> DNA
<213> Homo sapiens

<400> 5651
ctcgaggaat attgggtctt ctgcgcggcc gtagagctcc gccaagtgcg cctgcgcgga
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ggagaagtgg cgtcgagtcc ggccgggcag tagaggaaat tgcggtagtg accctcgggc
120
ctcgccatga agagccgctt tagcaccatt gacctccgcg ccgtactcgc ggagctgaat
180
gctagcttgc taggaatgag agtaaacaat gtttatgatg tggataataa gacatacctt
240
attcgtcttc aaaaaccgga ctttaaagct acacttttac ttgaatctgg catacaaatt
300
catacaacag aatttgagtg gcctaagaat atgatgccgt ctagttttgc catgaagtgc
360
cgaaaacatt tgaagagtcg gagattagtc agtgcaaaac agcttggtgt ggatagaatt
420
gtagattttc aatttggaag tgatgaagct gcttaccatt taatcattga gctctatgat
480
aggggggaaca ttgttcttac agattatgag tacgtaattt taaatattct aaggtttcga
540
actgatgagg cagatgatgt taaatttgct gttcgtgaac gctatccact tgatcatgct
600
agagctgctg aacct
615

<210> 5652
<211> 163
<212> PRT
<213> Homo sapiens

<400> 5652
Met Lys Ser Arg Phe Ser Thr Ile Asp Leu Arg Ala Val Leu Ala Glu
 1   5   10   15
Leu Asn Ala Ser Leu Leu Gly Met Arg Val Asn Asn Val Tyr Asp Val
            20   25   30
Asp Asn Lys Thr Tyr Leu Ile Arg Leu Gln Lys Pro Asp Phe Lys Ala
        35   40   45
Thr Leu Leu Leu Glu Ser Gly Ile Gln Ile His Thr Thr Glu Phe Glu
    50   55   60
Trp Pro Lys Asn Met Met Pro Ser Ser Phe Ala Met Lys Cys Arg Lys
65   70   75   80
His Leu Lys Ser Arg Arg Leu Val Ser Ala Lys Gln Leu Gly Val Asp
                85   90   95
Arg Ile Val Asp Phe Gln Phe Gly Ser Asp Glu Ala Ala Tyr His Leu
            100   105   110
Ile Ile Glu Leu Tyr Asp Arg Gly Asn Ile Val Leu Thr Asp Tyr Glu
        115   120   125
Tyr Val Ile Leu Asn Ile Leu Arg Phe Arg Thr Asp Glu Ala Asp Asp

4825

                    130   135   140
        Val Lys Phe Ala Val Arg Glu Arg Tyr Pro Leu Asp His Ala Arg Ala
        145   150   155   160
        Ala Glu Pro

        <210> 5653
        <211> 1439
        <212> DNA
        <213> Homo sapiens

        <400> 5653
        nnacgcgtcg catacagcca acctgtgcgt gctgctgtac cgcagcggcg tcaaagtggt
        60
        caccttctgt ggccacacgt ccaaaaccaa tcaggtcaac tcgggcggtg tgctgctgag
        120
        gttgcaggtg aacttgccag tgctcgtgtc ataatctccc tgcgggttgg tgaggaccgc
        180
        gttgaatctg atcaggctgt tgggtgcagg gggctggtgg gtctgccgag tgaccactca
        240
        gacaccgtgt cctcttgcct gggagagggg aagcagatct gaggacatct ctgtgccagg
        300
        ccagaaaccg cccacctgca ggtgaggccc ggacccctgc ccagttcctt ctccgggatg
        360
        gacgtggggc ccagctccct gccccacctt gggctgaagc tgctgctgct cctgctgctg
        420
        ctgcccctca ggggccaagc caacacaggc tgctacggga tcccagggat gcccggcctg
        480
        cccggggcac cagggaagga tgggtacgac ggactgccgg ggcccaaggg ggagccagga
        540
        atcccagcca ttcccgggat ccgaggaccc aaaggcagaa agggagaacc cggcttaccc
        600
        ggccatcctg ggaaaaatgg ccccatggga cccctgggat gccaggggt gcccggcccc
        660
        atgggcatcc ctggagagcc aggtgaggag ggcagataca agcagaaatt ccagtcagtg
        720
        ttcacggtca ctcggcagac ccaccagccc cctgcaccca acagcctgat cagattcaac
        780
        gcggtcctca ccaacccgca gggagattat gacacgagca ctggcaagtt cacctgcaaa
        840
        gtccccggcc tctactactt tgtctaccac gcgtcgcata cagccaacct gtgcgtgctg
        900
        ctgtaccgca gcggcgtcaa agtggtcacc ttctgtggcc acacgtccaa aaccaatcag
        960
        gtcaactcgg cggtgtgct gctgaggttg caggtgggcg aggaggtgtg gctggctgtc
        1020
        aatgactact acgacatggt gggcatccag ggctctgaca gcgtcttctc cggcttcctg
        1080
        ctcttccccg actagggcgg gcagatgcgc tcgagcccca cgggccttcc acctccctca
        1140
        gcttcctgca tggacccacc ttactggcca gtctgcatcc ttgcctagac cattctcccc
        1200
        accagatgga cttctcctcc agggagccca ccctgaccca cccccactgc accccctccc
        1260

                                        4826

catgggttct ctccttcctc tgaacttctt taggagtcac tgcttgtgtg gttcctggga
1320
cacttaacca atgccttctg gtactgccat tctttttttt tttttcaag tattggaagg
1380
ggtggggaga tatataaata aatcatgaaa tcaataaaaa aaaaaaaaa aaaaaaaa
1439

<210> 5654
<211> 245
<212> PRT
<213> Homo sapiens

<400> 5654
Met Asp Val Gly Pro Ser Ser Leu Pro His Leu Gly Leu Lys Leu Leu
1   5   10   15
Leu Leu Leu Leu Leu Leu Pro Leu Arg Gly Gln Ala Asn Thr Gly Cys
            20   25   30
Tyr Gly Ile Pro Gly Met Pro Gly Leu Pro Gly Ala Pro Gly Lys Asp
        35   40   45
Gly Tyr Asp Gly Leu Pro Gly Pro Lys Gly Glu Pro Gly Ile Pro Ala
    50   55   60
Ile Pro Gly Ile Arg Gly Pro Lys Gly Gln Lys Gly Glu Pro Gly Leu
65   70   75   80
Pro Gly His Pro Gly Lys Asn Gly Pro Met Gly Pro Pro Gly Met Pro
            85   90   95
Gly Val Pro Gly Pro Met Gly Ile Pro Gly Glu Pro Gly Glu Glu Gly
            100   105   110
Arg Tyr Lys Gln Lys Phe Gln Ser Val Phe Thr Val Thr Arg Gln Thr
        115   120   125
His Gln Pro Pro Ala Pro Asn Ser Leu Ile Arg Phe Asn Ala Val Leu
    130   135   140
Thr Asn Pro Gln Gly Asp Tyr Asp Thr Ser Thr Gly Lys Phe Thr Cys
145   150   155   160
Lys Val Pro Gly Leu Tyr Tyr Phe Val Tyr His Ala Ser His Thr Ala
                165   170   175
Asn Leu Cys Val Leu Leu Tyr Arg Ser Gly Val Lys Val Val Thr Phe
            180   185   190
Cys Gly His Thr Ser Lys Thr Asn Gln Val Asn Ser Gly Gly Val Leu
        195   200   205
Leu Arg Leu Gln Val Gly Glu Glu Val Trp Leu Ala Val Asn Asp Tyr
    210   215   220
Tyr Asp Met Val Gly Ile Gln Gly Ser Asp Ser Val Phe Ser Gly Phe
225   230   235   240
Leu Leu Phe Pro Asp
                245

<210> 5655
<211> 3810
<212> DNA
<213> Homo sapiens

<400> 5655
gatctgttgg aggaggatga gctgctagag cagaagtttc aggaggcggt gggccaggca
60

4827

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gggnngccat ctccatcanc ctccaaggct gagctggcag aggtgaggcg agaatgggcc
120
aagtacatgg aagtccatga gaaggcctcc ttcaccaata gtgagctgca ccgtgccatg
180
aacctgcacg tcggcaacct gcgcctgctc agcgggccgc ttgaccaggt ccgggctgcc
240
ctgcccacac cggccctctc cccagaggac aaggccgtgc tgcaaaacct aaagcgcatc
300
ctggctaagg tgcaggagat gcgggaccag cgcgtgtccc tggagcagca gctgcgtgag
360
cttatccaga aagatgacat cactgcctcg ctggtcacca cagaccactc agagatgaag
420
aagttgttcg aggagcagct gaaaaagtat gaccagctga aggtgtacct ggagcagaac
480
ctggccgccc aggaccgtgt cctctgtgca ctgacagagg ccaacgtgca gtacgcagcc
540
gtgcggcggg tactcagcga cttggaccaa aagtggaact ccacgctgca gaccctggtg
600
gcctcgtatg aagcctatga ggacctgatg aagaagtcgc aggagggcag ggacttctac
660
gcagatctgg agagcaaggt ggctgctctg ctggagcgca cgcagtccac ctgccaggcc
720
cgcgaggctg cccgccagca gctcctggac agggagctga agaagaagcc gccgccacgg
780
cccacagccc caaagccgct gctgccccgc agggaggaga gtgaggcagt ggaagcagga
840
gaccccctg aggagctgcg cagcctcccc cctgacatgg tggctggccc acgactgcct
900
gacaccttcc tgggaagtgc cacccgctc cactttcctc ccagcccctt ccccagctcc
960
acaggcccag gaccccacta tctctcaggc cccttgcccc ctggtaccta ctcgggcccc
1020
acccagctga tacagcccag ggccccaggg ccccatgcaa tgcccgtagc acctgggcct
1080
gccctctacc cagcccctgc ctacacaccg gagctgggcc ttgtgccccg atcctcccca
1140
cagcatggcg tggtgagcag tccctatgtg ggggtagggc cggccccacc agttgcaggt
1200
ctccctcgg ccccacctcc tcaattctca ggccccgagt tggccatggc ggttcggcca
1260
gccaccacca cagtagatag catccaggcg cccatccca gccacacagc cccacggcca
1320
aacccaccc ctgctcctcc cccgccctgc ttccctgtgc ccccaccgca gccactgccc
1380
acgccttaca cctaccctgc aggggctaag caacccatcc cagcacagca ccacttctct
1440
tctgggatcc ccacaggttt tccagcccca aggattgggc cccagcccca gcccatcct
1500
cagccccatc cttcacaagc gtttgggcct cagcccccac agcagcccct tccactccag
1560
catccacatc tcttcccacc ccaggcccca ggactcctac ccccacaatc cccctacccc
1620
tatgcccctc agcctggggt cctggggcag ccgccacccc ccctacacac ccagctctac
1680
```

                                        4828

```
ccaggtcccg ctcaagaccc tctgccagcc cactcagggg ctctgccttt ccccagccct
1740
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1800
atgggccccc aggcagcccc tcttaccatt cgagggccct cgtctgctgg ccagtccacc
1860
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1920
cgcccccccag cagcagaacc accccccttgc ctgcgccgag gcgccgcagc tgcagacctg
1980
ctctcctcca gcccggagag ccagcatggc ggcactcagt ctcctggggg tgggcagccc
2040
ctgctgcagc ccaccaaggt ggatgcagct gagggtcgtc ggccgcaggc cctgcggctg
2100
attgagcggg acccctatga gcatcctgag aggctgcggc agttgcagca ggagctggag
2160
gcctttcggg gtcagctggg ggatgtggga gctctggaca ctgtctggcg agagctgcaa
2220
gatgcgcagg aacatgatgc ccgaggccgt tccatcgcca ttgcccgctg ctactcactg
2280
aagaaccggc accaggatgt catgccctat gacagtaacc gtgtggtgct gcgctcaggc
2340
aaggatgact acatcaatgc cagctgcgtg gagggctct ccccatactg ccccccgcta
2400
gtggcaaccc aggcccccact gcctggcaca gctgctgact tctggctcat ggtccatgag
2460
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2520
gcacgctact tccccaccga gaggggccag cccatggtgc acggtgccct gagcctggca
2580
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2640
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2700
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2760
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2820
ggagcctttg cactgctcta tgcagctgtg caggaggtgg aggctgggaa cggaatccct
2880
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2940
ctgcacctca ggnttctgct atgaggcagt ggtgagacac gtggagcagg tcctgcagcg
3000
ccatggtgtg cctcctccat gcaaacccctt ggccagtgca agcatcagcc agaagaacca
3060
ccttcctcag gactcccagg acctggtcct cggtggggat gtgcccatca gctccatcca
3120
ggccaccatt gccaagctca gattcggcct cctggggggt tggagtcccc ggttgccagc
3180
ttgccaggcc ctgcagagcc cccaggcctc ccgccagcca gcctcccaga gtctaccccca
3240
atcccatctt cctccccacc cccccctttcc tccccactac ctgaggctcc ccagcctaag
3300
```

                                    4829

```
gaggagccgc cagtgcctga agcccccagc tcggggcccc cctcctcctc cctggaattg
3360
ctggcctcct tgaccccaga ggccttctcc ctggacagct ccctgcgggg caaacagcgg
3420
atgagcaagc ataactttct gcaggcccat aacgggcaag ggctgcgggc cacccggccc
3480
tctgacgacc ccctcagcct tctggatcca ctctggacac tcaacaagac ctgaacaggt
3540
tttgcctacc tggtccttac actacatcat catcatctca tgcccacctg cccacacca
3600
gcagagcttc tcagtgggca cagtctctta ctcccatttc tgctgccttt ggccctgcct
3660
ggcccagcct gcacccctgt ggggtggaaa tgtactgcag gctctgggtc aggttctgct
3720
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3780
tgtggcccgt aaaaaaaaaa aaaaaaaaa
3810
```

```
<210> 5656
<211> 987
<212> PRT
<213> Homo sapiens
```

```
<400> 5656
Asp Leu Leu Glu Glu Asp Glu Leu Leu Glu Gln Lys Phe Gln Glu Ala
1               5                   10                  15
Val Gly Gln Ala Gly Xaa Pro Ser Pro Ser Xaa Ser Lys Ala Glu Leu
            20                  25                  30
Ala Glu Val Arg Arg Glu Trp Ala Lys Tyr Met Glu Val His Glu Lys
        35                  40                  45
Ala Ser Phe Thr Asn Ser Glu Leu His Arg Ala Met Asn Leu His Val
    50                  55                  60
Gly Asn Leu Arg Leu Leu Ser Gly Pro Leu Asp Gln Val Arg Ala Ala
65                  70                  75                  80
Leu Pro Thr Pro Ala Leu Ser Pro Glu Asp Lys Ala Val Leu Gln Asn
                85                  90                  95
Leu Lys Arg Ile Leu Ala Lys Val Gln Glu Met Arg Asp Gln Arg Val
            100                 105                 110
Ser Leu Glu Gln Gln Leu Arg Glu Leu Ile Gln Lys Asp Asp Ile Thr
        115                 120                 125
Ala Ser Leu Val Thr Thr Asp His Ser Glu Met Lys Lys Leu Phe Glu
    130                 135                 140
Glu Gln Leu Lys Lys Tyr Asp Gln Leu Lys Val Tyr Leu Glu Gln Asn
145                 150                 155                 160
Leu Ala Ala Gln Asp Arg Val Leu Cys Ala Leu Thr Glu Ala Asn Val
            165                 170                 175
Gln Tyr Ala Ala Val Arg Arg Val Leu Ser Asp Leu Asp Gln Lys Trp
            180                 185                 190
Asn Ser Thr Leu Gln Thr Leu Val Ala Ser Tyr Glu Ala Tyr Glu Asp
        195                 200                 205
Leu Met Lys Lys Ser Gln Glu Gly Arg Asp Phe Tyr Ala Asp Leu Glu
    210                 215                 220
Ser Lys Val Ala Ala Leu Leu Glu Arg Thr Gln Ser Thr Cys Gln Ala
```

4830

```
      225                230                235                240
      Arg Glu Ala Ala Arg Gln Gln Leu Leu Asp Arg Glu Leu Lys Lys Lys
                      245                250                255
      Pro Pro Pro Arg Pro Thr Ala Pro Lys Pro Leu Leu Pro Arg Arg Glu
                      260                265                270
      Glu Ser Glu Ala Val Glu Ala Gly Asp Pro Pro Glu Glu Leu Arg Ser
                      275                280                285
      Leu Pro Pro Asp Met Val Ala Gly Pro Arg Leu Pro Asp Thr Phe Leu
                  290                295                300
      Gly Ser Ala Thr Pro Leu His Phe Pro Pro Ser Pro Phe Pro Ser Ser
      305                310                315                320
      Thr Gly Pro Gly Pro His Tyr Leu Ser Gly Pro Leu Pro Pro Gly Thr
                      325                330                335
      Tyr Ser Gly Pro Thr Gln Leu Ile Gln Pro Arg Ala Pro Gly Pro His
                      340                345                350
      Ala Met Pro Val Ala Pro Gly Pro Ala Leu Tyr Pro Ala Pro Ala Tyr
                      355                360                365
      Thr Pro Glu Leu Gly Leu Val Pro Arg Ser Ser Pro Gln His Gly Val
                  370                375                380
      Val Ser Ser Pro Tyr Val Gly Val Gly Pro Ala Pro Pro Val Ala Gly
      385                390                395                400
      Leu Pro Ser Ala Pro Pro Pro Gln Phe Ser Gly Pro Glu Leu Ala Met
                      405                410                415
      Ala Val Arg Pro Ala Thr Thr Thr Val Asp Ser Ile Gln Ala Pro Ile
                      420                425                430
      Pro Ser His Thr Ala Pro Arg Pro Asn Pro Thr Pro Ala Pro Pro Pro
                      435                440                445
      Pro Cys Phe Pro Val Pro Pro Pro Gln Pro Leu Pro Thr Pro Tyr Thr
                  450                455                460
      Tyr Pro Ala Gly Ala Lys Gln Pro Ile Pro Ala Gln His His Phe Ser
      465                470                475                480
      Ser Gly Ile Pro Thr Gly Phe Pro Ala Pro Arg Ile Gly Pro Gln Pro
                      485                490                495
      Gln Pro His Pro Gln Pro His Pro Ser Gln Ala Phe Gly Pro Gln Pro
                      500                505                510
      Pro Gln Gln Pro Leu Pro Leu Gln His Pro His Leu Phe Pro Pro Gln
                      515                520                525
      Ala Pro Gly Leu Leu Pro Pro Gln Ser Pro Tyr Pro Tyr Ala Pro Gln
                      530                535                540
      Pro Gly Val Leu Gly Gln Pro Pro Pro Leu His Thr Gln Leu Tyr
      545                550                555                560
      Pro Gly Pro Ala Gln Asp Pro Leu Pro Ala His Ser Gly Ala Leu Pro
                      565                570                575
      Phe Pro Ser Pro Gly Pro Pro Gln Pro Pro His Pro Pro Leu Ala Tyr
                      580                585                590
      Gly Pro Ala Pro Ser Thr Arg Pro Met Gly Pro Gln Ala Ala Pro Leu
                      595                600                605
      Thr Ile Arg Gly Pro Ser Ser Ala Gly Gln Ser Thr Pro Ser Pro His
                      610                615                620
      Leu Val Pro Ser Pro Ala Pro Ser Pro Gly Pro Gly Pro Val Pro Pro
      625                630                635                640
      Arg Pro Pro Ala Ala Glu Pro Pro Pro Cys Leu Arg Arg Gly Ala Ala
                      645                650                655
      Ala Ala Asp Leu Leu Ser Ser Ser Pro Glu Ser Gln His Gly Gly Thr
```

```
                  660               665             670
Gln Ser Pro Gly Gly Gly Gln Pro Leu Leu Gln Pro Thr Lys Val Asp
            675               680               685
Ala Ala Glu Gly Arg Arg Pro Gln Ala Leu Arg Leu Ile Glu Arg Asp
        690               695               700
Pro Tyr Glu His Pro Glu Arg Leu Arg Gln Leu Gln Gln Glu Leu Glu
705               710               715               720
Ala Phe Arg Gly Gln Leu Gly Asp Val Gly Ala Leu Asp Thr Val Trp
                725               730               735
Arg Glu Leu Gln Asp Ala Gln Glu His Asp Ala Arg Gly Arg Ser Ile
                740               745               750
Ala Ile Ala Arg Cys Tyr Ser Leu Lys Asn Arg His Gln Asp Val Met
            755               760               765
Pro Tyr Asp Ser Asn Arg Val Val Leu Arg Ser Gly Lys Asp Asp Tyr
    770               775               780
Ile Asn Ala Ser Cys Val Glu Gly Leu Ser Pro Tyr Cys Pro Pro Leu
785               790               795               800
Val Ala Thr Gln Ala Pro Leu Pro Gly Thr Ala Ala Asp Phe Trp Leu
                805               810               815
Met Val His Glu Gln Lys Val Ser Val Ile Val Met Leu Val Ser Glu
            820               825               830
Ala Glu Met Glu Lys Gln Lys Val Ala Arg Tyr Phe Pro Thr Glu Arg
        835               840               845
Gly Gln Pro Met Val His Gly Ala Leu Ser Leu Ala Leu Ser Ser Val
    850               855               860
Arg Ser Thr Glu Thr His Val Glu Arg Val Leu Ser Leu Gln Phe Arg
865               870               875               880
Asp Gln Ser Leu Lys Arg Ser Leu Val His Leu His Phe Pro Thr Trp
                885               890               895
Pro Glu Leu Gly Leu Pro Asp Ser Pro Ser Asn Leu Leu Arg Phe Ile
            900               905               910
Gln Glu Val His Ala His Tyr Leu His Gln Arg Pro Leu His Thr Pro
        915               920               925
Ile Ile Val His Cys Ser Ser Gly Val Gly Arg Thr Gly Ala Phe Ala
    930               935               940
Leu Leu Tyr Ala Ala Val Gln Glu Val Glu Ala Gly Asn Gly Ile Pro
945               950               955               960
Glu Leu Pro Gln Leu Val Arg Arg Met Arg Gln Gln Arg Lys His Met
                965               970               975
Leu Gln Glu Lys Leu His Leu Arg Xaa Leu Leu
            980               985
```

```
<210> 5657
<211> 1020
<212> DNA
<213> Homo sapiens

<400> 5657
tgcggacagt tgaagaagcg accgagggac tgggagtcgt tagtgaggat gacgcggcat
60
ggcaagaact gcaccgcagg cgccgtctac acctaccacg agaagaagaa ggacacagcg
120
gcctcgggct atgggaccca gaacattcga ctgagccggg atgccgtgaa ggacttcgac
180
```

tgctgttgtc tctccctgca gccttgccac gatcctgttg tcaccccaga tggctacctg
240
tatgagcgtg aggccatcct ggagtacatt ctgcaccaga agaaggagat tgcccggcag
300
atgaaggcct acgagaagca gcggggcacc cggcgcgagg agcagaagga gcttcagcgg
360
gcggcctcgc aggaccatgt gcggggcttc ctggagaagg agtcggctat cgtgagccgg
420
cccctcaacc ctttcacagc caaggccctc tcgggcacca gcccagatga tgtccaacct
480
gggcccagtg tgggtcctcc aagtaaggac aaggacaaag tgctgcccag cttctggatc
540
ccgtcgctga cgcccgaagc caaggccacc aagctggaga gccgtcccg cacggtgacc
600
tgccccatgt cagggaagcc cctgcgcatg tcggacctga cgcccgtgca cttcacaccg
660
ctagacagct ccgtggaccg cgtggggctc atcacccgca gcgagcgcta cgtgtgtgcc
720
gtgacccgcg acagcctgag caacgccacc ccctgcgctg tgctgcggcc ctctgggggct
780
gtggtcaccc tcgaatgcgt ggagaagctg attcggaagg acatggtgga ccctgtgact
840
ggagacaaac tcacagaccg cgacatcatc gtgctgcagc ggggcggtac cggcttcgcg
900
ggctccggag tgaagctgca agcggagaaa tcacggccgg tgatgcaggc ctgagtgtgt
960
gcgggagacc aaataaaccg gcttgggtgc gcaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1020

<210> 5658
<211> 301
<212> PRT
<213> Homo sapiens

<400> 5658
Met Thr Arg His Gly Lys Asn Cys Thr Ala Gly Ala Val Tyr Thr Tyr
1   5   10   15
His Glu Lys Lys Lys Asp Thr Ala Ala Ser Gly Tyr Gly Thr Gln Asn
                20   25   30
Ile Arg Leu Ser Arg Asp Ala Val Lys Asp Phe Asp Cys Cys Cys Leu
            35   40   45
Ser Leu Gln Pro Cys His Asp Pro Val Val Thr Pro Asp Gly Tyr Leu
        50   55   60
Tyr Glu Arg Glu Ala Ile Leu Glu Tyr Ile Leu His Gln Lys Lys Glu
65   70   75   80
Ile Ala Arg Gln Met Lys Ala Tyr Glu Lys Gln Arg Gly Thr Arg Arg
                85   90   95
Glu Glu Gln Lys Glu Leu Gln Arg Ala Ala Ser Gln Asp His Val Arg
            100   105   110
Gly Phe Leu Glu Lys Glu Ser Ala Ile Val Ser Arg Pro Leu Asn Pro
        115   120   125
Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gln Pro
    130   135   140
Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro

4833

```
145                150                   155                   160
Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu
                165                   170                   175
Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu
            180                   185                   190
Arg Met Ser Asp Leu Thr Pro Val His Phe Thr Pro Leu Asp Ser Ser
        195                   200                   205
Val Asp Arg Val Gly Leu Ile Thr Arg Ser Glu Arg Tyr Val Cys Ala
        210                   215                   220
Val Thr Arg Asp Ser Leu Ser Asn Ala Thr Pro Cys Ala Val Leu Arg
225                   230                   235                   240
Pro Ser Gly Ala Val Val Thr Leu Glu Cys Val Glu Lys Leu Ile Arg
                245                   250                   255
Lys Asp Met Val Asp Pro Val Thr Gly Asp Lys Leu Thr Asp Arg Asp
            260                   265                   270
Ile Ile Val Leu Gln Arg Gly Gly Thr Gly Phe Ala Gly Ser Gly Val
        275                   280                   285
Lys Leu Gln Ala Glu Lys Ser Arg Pro Val Met Gln Ala
    290                   295                   300
```

```
<210> 5659
<211> 1263
<212> DNA
<213> Homo sapiens

<400> 5659
nttttaaaac gtaattattt aattctgaga ctctgggaga gggggcttag atctctgctt
60
tgggtgttct tctcagatgc ggtgctttta aaaaaaagtg taattatttta atcctgagac
120
tcagagaagg cttagatcta tgcattgggt gttattctca gatgcagaga tgtaaatgcc
180
atttttctct tctgtttca ggtcacatgt gccaatttaa cgaacggtgg aaagtcagaa
240
cttctgaaat caggaagcag caaatccaca ctaaagcaca tatggacaga aagcagcaaa
300
gacttgtcta tcagccgact cctgtcacag acttttcgtg gcaaagagaa tgatacagat
360
ttggacctga gatatgacac cccagaacct tattctgagc aagacctctg ggactggctg
420
aggaactcca cagaccttca gagcctcgg cccagggcca agagaaggcc cattgttaaa
480
acgggcaagt ttaagaaaat gtttggatgg ggcgatttc attccaacat caaaacagtg
540
aagctgaacc tgttgataac tgggaaaatt gtagatcatg gcaatgggac atttagtgtt
600
tatttcaggc ataattcaac tggtcaaggg aatgtatctg tcagcttggt accccctaca
660
aaaatcgtgg aatttgactt ggcacaacaa accgtgattg atgccaaaga ttccaagtct
720
tttaattgtc gcattgaata tgaaaaggtt gacaaggcta ccaagaacac actctgcaac
780
tatgacccct caaaaacctg ttaccaggag caaacccaaa gtcatgtatc ctggctctgc
840
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4834

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tccaagccct ttaaggtgat ctgtatttac atttcctttt atagtacaga ttataaactg
900
gtacagaaag tgtgccctga ctacaactac cacagtgaca caccttactt tccctcggga
960
tgaaggtgaa catgggggtg agactgaagc ctgaggaatt aaaggtcata tgacagggct
1020
gttacctcaa agaagaaggt cacatctgtt gcctggaatg tgtctacact gctgctcttg
1080
tcaactggct gcaaaataca ctagtggaaa acactctgat gtaatttctg cccagtcagc
1140
ttcatccctc agtataattg taaatcatca cagattttga attcacacct gaagacatgc
1200
tctcacatat agaggtacac aaacacaccg tcatgcacat ttcagcttgc gtctatcatg
1260
att
1263
```

```
<210> 5660
<211> 253
<212> PRT
<213> Homo sapiens
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```
<400> 5660
Val Thr Cys Ala Asn Leu Thr Asn Gly Gly Lys Ser Glu Leu Leu Lys
1               5                   10                  15
Ser Gly Ser Ser Lys Ser Thr Leu Lys His Ile Trp Thr Glu Ser Ser
            20                  25                  30
Lys Asp Leu Ser Ile Ser Arg Leu Leu Ser Gln Thr Phe Arg Gly Lys
        35                  40                  45
Glu Asn Asp Thr Asp Leu Asp Leu Arg Tyr Asp Thr Pro Glu Pro Tyr
    50                  55                  60
Ser Glu Gln Asp Leu Trp Asp Trp Leu Arg Asn Ser Thr Asp Leu Gln
65                  70                  75                  80
Glu Pro Arg Pro Arg Ala Lys Arg Arg Pro Ile Val Lys Thr Gly Lys
                85                  90                  95
Phe Lys Lys Met Phe Gly Trp Gly Asp Phe His Ser Asn Ile Lys Thr
                100                 105                 110
Val Lys Leu Asn Leu Leu Ile Thr Gly Lys Ile Val Asp His Gly Asn
            115                 120                 125
Gly Thr Phe Ser Val Tyr Phe Arg His Asn Ser Thr Gly Gln Gly Asn
        130                 135                 140
Val Ser Val Ser Leu Val Pro Pro Thr Lys Ile Val Glu Phe Asp Leu
145                 150                 155                 160
Ala Gln Gln Thr Val Ile Asp Ala Lys Asp Ser Lys Ser Phe Asn Cys
                165                 170                 175
Arg Ile Glu Tyr Glu Lys Val Asp Lys Ala Thr Lys Asn Thr Leu Cys
                180                 185                 190
Asn Tyr Asp Pro Ser Lys Thr Cys Tyr Gln Glu Gln Thr Gln Ser His
            195                 200                 205
Val Ser Trp Leu Cys Ser Lys Pro Phe Lys Val Ile Cys Ile Tyr Ile
        210                 215                 220
Ser Phe Tyr Ser Thr Asp Tyr Lys Leu Val Gln Lys Val Cys Pro Asp
225                 230                 235                 240
Tyr Asn Tyr His Ser Asp Thr Pro Tyr Phe Pro Ser Gly
```

245   250

<210> 5661
<211> 578
<212> DNA
<213> Homo sapiens

<400> 5661
agagctcgaa ggggccatat gacactcctc ccggacccct ggacacacac agccctgggg
60
actggatgcc ttggagcatg caagtccaga gcaccctggg agccctggtg catgggaccc
120
ataacccagt gcacggcaag gacccagcag gaagcaccag ccactggccc cgacctcccg
180
cacccaggac ctgacgggca cttagacaca cacagtggcc tgagctccaa ctccagcatg
240
accacgcggg agcttcagca gtactggcag aaccagaaat gccgctggaa gcacgtcaaa
300
ctgctctttg agatcgcttc agctcgcatc gaggagagaa aagtctctaa gtttgtgatg
360
gggaaatcaa ggcctggaga gatgacttat ccagggtcac gtggcgagac agggacagca
420
ccagaaccag acccgagatg tccacgtcaa agtgacatgc tctgagaggc agcacacaca
480
gaataaccct gcatccaaat tccaggaagc tcttaggggt catccagctg ggcctagggg
540
tgcagggtca gtgctgaggc ctgggcaggg ccgctagc
578

<210> 5662
<211> 148
<212> PRT
<213> Homo sapiens

<400> 5662
Met Thr Leu Leu Pro Asp Pro Trp Thr His Thr Ala Leu Gly Thr Gly
1   5   10   15
Cys Leu Gly Ala Cys Lys Ser Arg Ala Pro Trp Glu Pro Trp Cys Met
            20   25   30
Gly Pro Ile Thr Gln Cys Thr Ala Arg Thr Gln Gln Glu Ala Pro Ala
        35   40   45
Thr Gly Pro Asp Leu Pro His Pro Gly Pro Asp Gly His Leu Asp Thr
    50   55   60
His Ser Gly Leu Ser Ser Asn Ser Ser Met Thr Thr Arg Glu Leu Gln
65   70   75   80
Gln Tyr Trp Gln Asn Gln Lys Cys Arg Trp Lys His Val Lys Leu Leu
                85   90   95
Phe Glu Ile Ala Ser Ala Arg Ile Glu Glu Arg Lys Val Ser Lys Phe
            100   105   110
Val Met Gly Lys Ser Arg Pro Gly Glu Met Thr Tyr Pro Gly Ser Arg
            115   120   125
Gly Glu Thr Gly Thr Ala Pro Glu Pro Asp Pro Arg Cys Pro Arg Gln
        130   135   140
Ser Asp Met Leu

145

<210> 5663
<211> 857
<212> DNA
<213> Homo sapiens

<400> 5663
tttttttttt ttttttttgca gtaagtaact cagaatgact ttactcagga aatatgacca
60
tgactcactg gctaggagtg ccccatgccc agttcttaga gacccttgat agctcctaga
120
agacaggagg ctgccgtggt caagaagggc caagccttga agtctcacgg cacccctgt
180
ggtggaggta taaggctcag gggccaacta ctgggtcttg cagtccccat cgttgctgtg
240
ggctgtcttc accttcttta gttccttctg tagctcagac tcggccacca caacctcctt
300
tggcttctgg taagagatga tcagggtgca gttggcgtgg gcaaagctca gcaaggcgtc
360
atccagaggt agctggtgtc tatctagatc aggaatggag aacttcttgt agtacttctt
420
gttggttgtt ctgacaatga tgcagcgctc cttctggtcc acagagacac tatagacatc
480
cttaggatag gggaggtttc gaatccgcca ctggaaactc atcttggtgt ccttgcgcat
540
gaagatagga ttggcattgc tttccttgat gagttcaggc cccaggttcc ctgctcctag
600
gggcgctggg tctcctactt caagctgcca ctggcccatg ctcccaggg cacttttcac
660
acgccacttt ctcacaagta gttcactcgt cttctcgtca tattcttcag ccatttcctt
720
gccgtctggg aataaatagt gaaccttcct tctcccgtcc tgcagcagcg cagtcttctg
780
ggctgtccgc agactctcca accagcccgt caccgccatc tttcccctgc taagcagcac
840
gcccagccgc tgccatg
857

<210> 5664
<211> 203
<212> PRT
<213> Homo sapiens

<400> 5664
Met Ala Val Thr Gly Trp Leu Glu Ser Leu Arg Thr Ala Gln Lys Thr
1   5   10   15
Ala Leu Leu Gln Asp Gly Arg Arg Lys Val His Tyr Leu Phe Pro Asp
            20   25   30
Gly Lys Glu Met Ala Glu Glu Tyr Asp Glu Lys Thr Ser Glu Leu Leu
        35   40   45
Val Arg Lys Trp Arg Val Lys Ser Ala Leu Gly Ala Met Gly Gln Trp
    50   55   60
Gln Leu Glu Val Gly Asp Pro Ala Pro Leu Gly Ala Gly Asn Leu Gly

4837

```
65                      70                      75                      80
Pro Glu Leu Ile Lys Glu Ser Asn Ala Asn Pro Ile Phe Met Arg Lys
                    85                      90                      95
Asp Thr Lys Met Ser Phe Gln Trp Arg Ile Arg Asn Leu Pro Tyr Pro
            100                     105                     110
Lys Asp Val Tyr Ser Val Ser Val Asp Gln Lys Glu Arg Cys Ile Ile
        115                     120                     125
Val Arg Thr Thr Asn Lys Lys Tyr Tyr Lys Lys Phe Ser Ile Pro Asp
        130                     135                     140
Leu Asp Arg His Gln Leu Pro Leu Asp Asp Ala Leu Leu Ser Phe Ala
145                     150                     155                     160
His Ala Asn Cys Thr Leu Ile Ile Ser Tyr Gln Lys Pro Lys Glu Val
                165                     170                     175
Val Val Ala Glu Ser Glu Leu Gln Lys Glu Leu Lys Lys Val Lys Thr
            180                     185                     190
Ala His Ser Asn Asp Gly Asp Cys Lys Thr Gln
        195                     200
```

```
<210> 5665
<211> 531
<212> DNA
<213> Homo sapiens

<400> 5665
gtcaagtcct gtaggcagca tagggccctg gctcagcttt tctctgcaga ggcctcgctt
60
gagtgggtgg ggtttgcccg cccgcagatc tccacgggag ggggaggggt caggcctccc
120
cagcggccct ctgaagtcac ttgcttcacg gaggtgttac tgtctgctgc tggacagagc
180
atgatggggg ctgcaagggc tccctcaaac cctggactcc tccaacagag ggctcctggt
240
tgccaggctc agctctgccc tgcgtcggcc ccagggcgta gggagggtgt ttaatcctgg
300
cccgggcctt ccccgcaggt ggagcgcgtg tcgcacccgc tgctgcagca gcagtatgag
360
ctgtaccggg agcgcctgct gcagcgatgc gagcggcgcc cggtggagca ggtgctgtac
420
cacggcacga cggcaccggc agtgcctgac atctgcgccc acggcttcaa ccgcagcttc
480
tgcggccgca acgccacggt ctacgggaag ggcgtgtatt cgccaggcg c
531
```

```
<210> 5666
<211> 79
<212> PRT
<213> Homo sapiens

<400> 5666
Ser Trp Pro Gly Pro Ser Pro Gln Val Glu Arg Val Ser His Pro Leu
1               5                       10                      15
Leu Gln Gln Gln Tyr Glu Leu Tyr Arg Glu Arg Leu Leu Gln Arg Cys
                20                      25                      30
Glu Arg Arg Pro Val Glu Gln Val Leu Tyr His Gly Thr Thr Ala Pro
```

```
         35                     40                     45
Ala Val Pro Asp Ile Cys Ala His Gly Phe Asn Arg Ser Phe Cys Gly
     50                     55                     60
Arg Asn Ala Thr Val Tyr Gly Lys Gly Val Tyr Phe Ala Arg Arg
65                     70                     75
```

```
<210> 5667
<211> 858
<212> DNA
<213> Homo sapiens
```

```
<400> 5667
nattcggcac gaggtagtca aagtatgcag cctccaatta ttccactctt ccctgttgtc
60
aagaaagata tgacatttct acatgaagga aatgactcca aagtagatgg tttagtaaac
120
tttgagaagt taagaatgat ttccaaggaa atccgccaag ttgttcgaat gacttctgct
180
aacatggacc cagctatgat gtttcgacag aggtcactga gtcaaggaag cacaaattca
240
aacatgctgg atgttcaggg aggtgctcac aaaaaaaggg cacgccgcag ctctctgctt
300
aatgccaaga agctatatga ggatgcccaa atggcaagga aggtgaagca gtatctttcc
360
agtctcgatg tagagacaga tgaggagaag ttccagatga tgtcattaca gntggagcct
420
gcatatggta cctgtgagta caagtttca tttatgtgac gctaaagagc acaacaaaat
480
aaaaacttat ttctctagaa ttatacctaa gtcccaagaa aattaacttt cactcacaaa
540
agattgctgg cataccttaa gcatcatgtg atccaattaa tcacagactg aatcccatcc
600
attcctgatg gctacactat ccaaaaaata gagggataag tagatcttta aaaagctttt
660
taattctttt aaaaactgga tcattataga ggaggctttc tgtttgagaa cattttata
720
ttcatcccta aagagtaaac ataagtggaa tttttacctc tttttatttc atggataata
780
tttaccaact agaaaatata agaaatttga ttaaaacacc agtgataata ggtagcttac
840
aggtgccagt agtaaggt
858
```

```
<210> 5668
<211> 152
<212> PRT
<213> Homo sapiens
```

```
<400> 5668
Xaa Ser Ala Arg Gly Ser Gln Ser Met Gln Pro Pro Ile Ile Pro Leu
 1               5                   10                  15
Phe Pro Val Val Lys Lys Asp Met Thr Phe Leu His Glu Gly Asn Asp
              20                  25                  30
Ser Lys Val Asp Gly Leu Val Asn Phe Glu Lys Leu Arg Met Ile Ser
```

```
         35                 40                 45
Lys Glu Ile Arg Gln Val Val Arg Met Thr Ser Ala Asn Met Asp Pro
     50                 55                 60
Ala Met Met Phe Arg Gln Arg Ser Leu Ser Gln Gly Ser Thr Asn Ser
65                 70                 75                 80
Asn Met Leu Asp Val Gln Gly Gly Ala His Lys Lys Arg Ala Arg Arg
                 85                 90                 95
Ser Ser Leu Leu Asn Ala Lys Lys Leu Tyr Glu Asp Ala Gln Met Ala
                100                105                110
Arg Lys Val Lys Gln Tyr Leu Ser Ser Leu Asp Val Glu Thr Asp Glu
         115                120                125
Glu Lys Phe Gln Met Met Ser Leu Gln Xaa Glu Pro Ala Tyr Gly Thr
     130                135                140
Cys Glu Tyr Lys Phe Ser Phe Met
145                 150
```

```
<210> 5669
<211> 1842
<212> DNA
<213> Homo sapiens
```

```
<400> 5669
tttgtgctgt cacccggcac agaccctgct gccgacctct acaagtttgc cgaagaaatg
60
aagttctcca aaaagctctc tgccatctcc ctgggccagg ggcagggccc tcgggcagaa
120
gccatgatgc gcagctccat agagaggggc aaatgggtct tcttccagaa ctgccacctg
180
gcaccaagct ggatgccagc cctagaacgc ctcatcgagc acatcaaccc cgacaaggta
240
cacagggact ccgcctctg gctcaccagc ctgcccagca caagttccc agtgtccatc
300
ctgcagaacg gctccaagat gaccattgag ccgccacgcg gtgtcagggc caacctgctg
360
aagtcctata gtagccttgg tgaagacttc ctcaactcct gccacaaggt gatggagttc
420
aagtctctgc tgctgtctct gtgcttgttc catgggaacg ccctggagcg ccgtaagttt
480
gggcccctgg gcttcaacat cccctatgag ttcacggatg gagatctgcg catctgcatc
540
agccagctca agatgttcct ggacgaatat gatgacatcc cctacaaggt cctcaagtac
600
acggcagggg agatcaatta cgggggccgt gtcactgatg actgggaccg gcgctgcatc
660
atgaacatct tggaggactt ctacaaccct gacgtgctct cccctgagca cagctacagc
720
gcctcgggca tctaccacca gatcccgcct acctacgacc tccacggcta cctctcctac
780
atcaagagcc tcccactcaa tgatatgcct gagatctttg gcctgcatga caatgccaac
840
atcacctttg cccagaacga cacgttcgcc ctcctgggca ccatcatcca gctgcaaccc
900
aaatcatctt ctgcaggcag ccagggccgg gaggagatag tggaggacgt cacccaaaac
960
```

```
attctgctca aggtgcctga gcctatcaac ttgcaatggg tgatggccaa gtacccagtg
1020
ctgtatgagg aatcaatgaa cacagtacta gtacaagagg tcattaggta caatcggctg
1080
ctgcaggtga tcacacagac actgcaagac ctactcaagg cactcaaggg gctggtagtg
1140
atgtcctctc agctggagct gatggctgcc agcctgtaca acaatactgt gcctgagctc
1200
tggagtgcca aggcctaccc atcgctcaag cctctgtcat catgggtcat ggacctgctg
1260
caacgcctgg actttctgca ggcctggatc caagatggca tcccagctgt cttctggatc
1320
agtggattct tcttccccca ggctttctta acaggcactc tgcagaattt tgcccgcaaa
1380
tttgtcatct ccattgacac catctccttt gatttcaagg tgatgtttga ggcaccatca
1440
gagttaacac aaagacccca agtagggtgc tatatccatg gattattcct ggaaggtgcc
1500
cgctgggatc cagaggcctt ccagctggct gagtctcagc ccaaggagct gtacacagag
1560
atggccgtta tctggctctt gccaacaccc aaccgcaagg cccaggacca ggactttac
1620
ctgtgcccca tctacaagac actgactcgt gctggaacac tatcaaccac aggacactct
1680
accaactatg tcattgctgt ggagatcccc acccatcagc cccagcgaca ctggataaag
1740
cgtggtgtgg ccctcatctg tgccctggac tactagactc agacagaagg ctggggcca
1800
ttaaagctga attttctaag caaaaaaaaa aaaaaaaaa aa
1842


<210> 5670
<211> 591
<212> PRT
<213> Homo sapiens

<400> 5670
Phe Val Leu Ser Pro Gly Thr Asp Pro Ala Ala Asp Leu Tyr Lys Phe
 1               5                  10                  15
Ala Glu Glu Met Lys Phe Ser Lys Lys Leu Ser Ala Ile Ser Leu Gly
            20                  25                  30
Gln Gly Gln Gly Pro Arg Ala Glu Ala Met Met Arg Ser Ser Ile Glu
         35                  40                  45
Arg Gly Lys Trp Val Phe Phe Gln Asn Cys His Leu Ala Pro Ser Trp
     50                  55                  60
Met Pro Ala Leu Glu Arg Leu Ile Glu His Ile Asn Pro Asp Lys Val
65                  70                  75                  80
His Arg Asp Phe Arg Leu Trp Leu Thr Ser Leu Pro Ser Asn Lys Phe
                85                  90                  95
Pro Val Ser Ile Leu Gln Asn Gly Ser Lys Met Thr Ile Glu Pro Pro
            100                 105                 110
Arg Gly Val Arg Ala Asn Leu Leu Lys Ser Tyr Ser Ser Leu Gly Glu
         115                 120                 125
Asp Phe Leu Asn Ser Cys His Lys Val Met Glu Phe Lys Ser Leu Leu
```

4841

```
                 130                    135                    140
Leu Ser Leu Cys Leu Phe His Gly Asn Ala Leu Glu Arg Arg Lys Phe
145                    150                    155                    160
Gly Pro Leu Gly Phe Asn Ile Pro Tyr Glu Phe Thr Asp Gly Asp Leu
                 165                    170                    175
Arg Ile Cys Ile Ser Gln Leu Lys Met Phe Leu Asp Glu Tyr Asp Asp
                 180                    185                    190
Ile Pro Tyr Lys Val Leu Lys Tyr Thr Ala Gly Glu Ile Asn Tyr Gly
                 195                    200                    205
Gly Arg Val Thr Asp Asp Trp Asp Arg Arg Cys Ile Met Asn Ile Leu
         210                    215                    220
Glu Asp Phe Tyr Asn Pro Asp Val Leu Ser Pro Glu His Ser Tyr Ser
225                    230                    235                    240
Ala Ser Gly Ile Tyr His Gln Ile Pro Pro Thr Tyr Asp Leu His Gly
                 245                    250                    255
Tyr Leu Ser Tyr Ile Lys Ser Leu Pro Leu Asn Asp Met Pro Glu Ile
                 260                    265                    270
Phe Gly Leu His Asp Asn Ala Asn Ile Thr Phe Ala Gln Asn Glu Thr
                 275                    280                    285
Phe Ala Leu Leu Gly Thr Ile Ile Gln Leu Gln Pro Lys Ser Ser Ser
         290                    295                    300
Ala Gly Ser Gln Gly Arg Glu Glu Ile Val Glu Asp Val Thr Gln Asn
305                    310                    315                    320
Ile Leu Leu Lys Val Pro Glu Pro Ile Asn Leu Gln Trp Val Met Ala
                 325                    330                    335
Lys Tyr Pro Val Leu Tyr Glu Glu Ser Met Asn Thr Val Leu Val Gln
                 340                    345                    350
Glu Val Ile Arg Tyr Asn Arg Leu Leu Gln Val Ile Thr Gln Thr Leu
         355                    360                    365
Gln Asp Leu Leu Lys Ala Leu Lys Gly Leu Val Val Met Ser Ser Gln
         370                    375                    380
Leu Glu Leu Met Ala Ala Ser Leu Tyr Asn Asn Thr Val Pro Glu Leu
385                    390                    395                    400
Trp Ser Ala Lys Ala Tyr Pro Ser Leu Lys Pro Leu Ser Ser Trp Val
                 405                    410                    415
Met Asp Leu Leu Gln Arg Leu Asp Phe Leu Gln Ala Trp Ile Gln Asp
         420                    425                    430
Gly Ile Pro Ala Val Phe Trp Ile Ser Gly Phe Phe Phe Pro Gln Ala
         435                    440                    445
Phe Leu Thr Gly Thr Leu Gln Asn Phe Ala Arg Lys Phe Val Ile Ser
         450                    455                    460
Ile Asp Thr Ile Ser Phe Asp Phe Lys Val Met Phe Glu Ala Pro Ser
465                    470                    475                    480
Glu Leu Thr Gln Arg Pro Gln Val Gly Cys Tyr Ile His Gly Leu Phe
                 485                    490                    495
Leu Glu Gly Ala Arg Trp Asp Pro Glu Ala Phe Gln Leu Ala Glu Ser
         500                    505                    510
Gln Pro Lys Glu Leu Tyr Thr Glu Met Ala Val Ile Trp Leu Leu Pro
         515                    520                    525
Thr Pro Asn Arg Lys Ala Gln Asp Gln Asp Phe Tyr Leu Cys Pro Ile
         530                    535                    540
Tyr Lys Thr Leu Thr Arg Ala Gly Thr Leu Ser Thr Thr Gly His Ser
545                    550                    555                    560
Thr Asn Tyr Val Ile Ala Val Glu Ile Pro Thr His Gln Pro Gln Arg
```

                                   4842

```
                     565                 570                 575
        His Trp Ile Lys Arg Gly Val Ala Leu Ile Cys Ala Leu Asp Tyr
                580                 585                 590


        <210> 5671
        <211> 818
        <212> DNA
        <213> Homo sapiens
        <400> 5671
        nngcgcgcca gggaaagtgg aagttggatt ctgaaagatc gaggtgccca caggaatttt
        60
        atggtcgtcg gattttgaag acttgaacta gactgggggt tctccttgca tttcttgcct
        120
        gttgcctatc tttgtcctct ctcttccggc ttcgagatga atgtgcagcc ctgttctagg
        180
        tgtgggtatg gggtttatcc tgccgagaag atcagctgta tagatcagat atggcataaa
        240
        gcctgttttc actgtgaagt ttgcaagatg atgctgtctg ttaataactt tgtgagtcac
        300
        cagaaaaagc cgtactgtca cgcccataac cctaagaaca acactttcac cagtgtctat
        360
        cacactccat taaatctaaa tgtgaggaca tttccagagg ccatcagtgg gatccatgac
        420
        caagaagatg gtgaacagtg taaatcagtt tttcattggg acatgaaatc caaggataag
        480
        gaaggtgcac ctaacaggca gccactggca aatgagagag cctattggac tggatatggg
        540
        gaagggaatg cttggtgccc aggagctctg ccagaccccg aaattgtaag gatggttgag
        600
        gctcgaaagt ctcttggtga ggaatataca gaagactatg agcaacccag gggcaagggg
        660
        agctttccag ccatgatcac acctgcttat caaagggcca agaaagccaa ccagctggcc
        720
        agccaagtgg agtataagag agggcatgat gaacgcatct ccaggttctc cacggtggcg
        780
        gatactcctg agctgctacg gagcaaggct tggggcac
        818


        <210> 5672
        <211> 220
        <212> PRT
        <213> Homo sapiens


        <400> 5672
        Met Asn Val Gln Pro Cys Ser Arg Cys Gly Tyr Gly Val Tyr Pro Ala
        1               5                   10                  15
        Glu Lys Ile Ser Cys Ile Asp Gln Ile Trp His Lys Ala Cys Phe His
                    20                  25                  30
        Cys Glu Val Cys Lys Met Met Leu Ser Val Asn Asn Phe Val Ser His
                35                  40                  45
        Gln Lys Lys Pro Tyr Cys His Ala His Asn Pro Lys Asn Asn Thr Phe
            50                  55                  60
        Thr Ser Val Tyr His Thr Pro Leu Asn Leu Asn Val Arg Thr Phe Pro
        65                  70                  75                  80
```

Glu Ala Ile Ser Gly Ile His Asp Gln Glu Asp Gly Glu Gln Cys Lys
                  85   90   95
Ser Val Phe His Trp Asp Met Lys Ser Lys Asp Lys Glu Gly Ala Pro
                 100   105   110
Asn Arg Gln Pro Leu Ala Asn Glu Arg Ala Tyr Trp Thr Gly Tyr Gly
             115   120   125
Glu Gly Asn Ala Trp Cys Pro Gly Ala Leu Pro Asp Pro Glu Ile Val
         130   135   140
Arg Met Val Glu Ala Arg Lys Ser Leu Gly Glu Glu Tyr Thr Glu Asp
145   150   155   160
Tyr Glu Gln Pro Arg Gly Lys Gly Ser Phe Pro Ala Met Ile Thr Pro
                 165   170   175
Ala Tyr Gln Arg Ala Lys Lys Ala Asn Gln Leu Ala Ser Gln Val Glu
             180   185   190
Tyr Lys Arg Gly His Asp Glu Arg Ile Ser Arg Phe Ser Thr Val Ala
         195   200   205
Asp Thr Pro Glu Leu Leu Arg Ser Lys Ala Trp Gly
    210   215   220

<210> 5673
<211> 1279
<212> DNA
<213> Homo sapiens

<400> 5673
nttttttttt tttgaagcca gcatttccct ttatttctgg atggaaacgg ggccctaaaa
60
gcagaaatca atattttgt ttgaaagatg cagtcatgct aatttcactt ttggctaaaa
120
ccgagacgat aaaagaacag ttgggtgttt ataggatgcc ctcaaagtga gctggctaag
180
tgagctgggc tctaacttca ctcacaaatt tatagtacag ctaagaaggc cagtctgtcc
240
atgaaaggga gccgagacaa gacgagggcg gcctcttcca ggcctgtgcc aagtgtcctt
300
ggggtcccgc catggtccac acttctgcag catccgcaga acatgtggcc gggtcctgcc
360
cagcagcagg gacagccaag tgggaggcag gcatggtgca cacctgggga ggcccctggt
420
gcagaagcag ccccacagta gcagccccat ccagaggaag accactccgg agggccacag
480
gcctctgcag ccctggcact gccgcccagc cctccatctc agcgggatgt gcagggtgag
540
acaggaatgc agggacgttc tgccctagg tcagcctctt catccgcctg ttgtgcttcg
600
atggtcaagg ttgccctgtc cacagctgct gcaacgccat ccagggcttc gtcttgtctc
660
tccagctcac tctcggcctc cgggccagcc ccttcatcct cctcaggatc tgggttagtt
720
cctgggtatc tgcctcagaa agggctggca ggcttgtctg caggtgcagt gctgtgccct
780
cctggtctcc tgcgggtggc tcacggtgca gggtacggcc catcagccca gatgctgcat
840

4844

gccagactga gcagctcttc tctgcggggg aagaggttct tgcgcttctg agcaccaatg
900
catcttctaa cagctccatc ttcttgctga actgcacttc taaaatgggg ataacctctg
960
gcatcttggc agatatcaaa cgataggcca tgtctggctt ccaataaac cgctggcgga
1020
tgctaatttc gtaaggtgag tggaccttga tgtcgtccac gtcttctctt tcaaacctgt
1080
gcatgagcaa agaactggag tcatgtattt ccaacccaga cacaaggacg gtgagcctcc
1140
ctggtttaac gtgagactct gttctgtggg aaataacagc aggaattttt atcagtatcc
1200
cttctttccc aaagggttca caactggtca tggagacatc ttccctgggc tttgtttccg
1260
gtggtgtctt ccaaagctt
1279

<210> 5674
<211> 81
<212> PRT
<213> Homo sapiens

<400> 5674
Leu His Ser Gln Ile Tyr Ser Thr Ala Lys Lys Ala Ser Leu Ser Met
1   5   10   15
Lys Gly Ser Arg Asp Lys Thr Arg Ala Ala Ser Ser Arg Pro Val Pro
            20   25   30
Ser Val Leu Gly Val Pro Pro Trp Ser Thr Leu Leu Gln His Pro Gln
        35   40   45
Asn Met Trp Pro Gly Pro Ala Gln Gln Gln Gly Gln Pro Ser Gly Arg
    50   55   60
Gln Ala Trp Cys Thr Pro Gly Glu Ala Pro Gly Ala Glu Ala Ala Pro
65   70   75   80
Gln

<210> 5675
<211> 1074
<212> DNA
<213> Homo sapiens

<400> 5675
nttttccact aaatacaaa ctttattctc tctccaagaa gatgcagacg tcacaggtgg
60
ccctgagctc ccacccgagg cttaggccca aggggcctct tccaggctga gggcctgctg
120
gggctgggcc aggggctgag gctgaaagca gcagcctgcc tagtgggtga cgccaggggc
180
cggtgtaaca tggcaccgag gttggggcca cagcaatgtg tgggacggtg gggtgggctg
240
gggcccttgg ctccaagcat tagttctcca agctctggtc cgttctccta cctccttcaa
300
ggggcaccag ggctacaagg tggtagttga gtattggggc ccgactcctg gggcactgga
360

4845

gtggtctcta ggcccgaggc cccaaggaga gggctgggtt tctgggagag tgctggtcct
420
tcctctctgg gcttggccat cttgacagct tcatcgtagg agggtggagg ctccggggtg
480
tacaggctgt aggcaggagg agccgtggag tccaggtcca gctccccaaa gggcaggggc
540
aaccgcatgc ccagtgggta ctgcacggag ctgtaggagg tcacagtgct gtgtacaggg
600
ctgtcactgt ccatagggat gactgccacg tcgcagggct gccgtgctgg tggcagatgt
660
ggctgggcct gtgcctgctt ccggaggcag cagaaccgga cacaaccagc tgtgacacca
720
cacagcagaa gcaggaggac cgccagcagg atgagcctag gagagcaagg ctctaccact
780
ggactgaccc tcggccaccg ggcacctgca ccctggggaa tgtcgtggca caaccaccga
840
agacaggtta acaggataaa aagcagacaa tgtctctcca tgtcggagac cgccgtggcc
900
agagcctggc ctcgggctgc tgggcctgcc ctggctatct ctcctgggct ggccaggggt
960
ggccttgggc tcactcccag gactcgctgt cctcagcgag tgccccactg ctgagcggga
1020
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1074

<210> 5676
<211> 145
<212> PRT
<213> Homo sapiens

<400> 5676
```
Glu Val Thr Val Leu Cys Thr Gly Leu Ser Leu Ser Ile Gly Met Thr
1               5                   10                  15
Ala Thr Ser Gln Gly Cys Arg Ala Gly Gly Arg Cys Gly Trp Ala Cys
            20                  25                  30
Ala Cys Phe Arg Arg Gln Gln Asn Arg Thr Gln Pro Ala Val Thr Pro
        35                  40                  45
His Ser Arg Ser Arg Arg Thr Ala Ser Arg Met Ser Leu Gly Glu Gln
        50                  55                  60
Gly Ser Thr Thr Gly Leu Thr Leu Gly His Arg Ala Pro Ala Pro Trp
65                  70                  75                  80
Gly Met Ser Trp His Asn His Arg Arg Gln Val Asn Arg Ile Lys Ser
                85                  90                  95
Arg Gln Cys Leu Ser Met Ser Glu Thr Ala Val Ala Arg Ala Trp Pro
            100                 105                 110
Arg Ala Ala Gly Pro Ala Leu Ala Ile Ser Pro Gly Leu Ala Arg Gly
        115                 120                 125
Gly Leu Gly Leu Thr Pro Arg Thr Arg Cys Pro Gln Arg Val Pro His
    130                 135                 140
Cys
145
```

<210> 5677
<211> 477

4846

<212> DNA
<213> Homo sapiens

<400> 5677
agcagctgtt cctctttgaa gaggtcgatg ctgaaaggag gccgcctgac tccatggcaa
60
aaaaggacac tggtgaagta gcggtagcac tcctccacgt tgcccaaggg ggttgctggt
120
agggaaagca agatgcagca gtgaggccct ctctggtatc cattcattca cttcactcaa
180
cagctgttta tgaccatgag caatacaagc cttgtgaaga tcctggagca gggcacaagc
240
cgctgacgtc tgctccagtg agaagccctg ctgccttccc caattcgctt tctttccgca
300
gccgccgctg ccccgacccc ggatctgcat gtggaagtac ctggacgtcc attccatgca
360
ccagctggag aagaccacca atgctgagat gagggaggtg ctggctgagc tgctggagct
420
agggtgtcct gagcagagcc tgagcgacgc catcaccctg gacctcttct gccgcgg
477

<210> 5678
<211> 151
<212> PRT
<213> Homo sapiens

<400> 5678
Met Ala Ser Leu Arg Leu Cys Ser Gly His Pro Ser Ser Ser Ser Ser
1   5   10   15
Ala Ser Thr Ser Leu Ile Ser Ala Leu Val Val Phe Ser Ser Trp Cys
            20   25   30
Met Glu Trp Thr Ser Arg Tyr Phe His Met Gln Ile Arg Gly Arg Gly
            35   40   45
Ser Gly Gly Cys Gly Lys Lys Ala Asn Trp Gly Arg Gln Gln Gly Phe
        50   55   60
Ser Leu Glu Gln Thr Ser Ala Ala Cys Ala Leu Leu Gln Asp Leu His
65   70   75   80
Lys Ala Cys Ile Ala His Gly His Lys Gln Leu Leu Ser Glu Val Asn
                85   90   95
Glu Trp Ile Pro Glu Arg Ala Ser Leu Leu His Leu Ala Phe Pro Thr
            100   105   110
Ser Asn Pro Leu Gly Gln Arg Gly Gly Val Leu Pro Leu Leu His Gln
        115   120   125
Cys Pro Phe Leu Pro Trp Ser Gln Ala Ala Ser Phe Gln His Arg Pro
    130   135   140
Leu Gln Arg Gly Thr Ala Ala
145   150

<210> 5679
<211> 665
<212> DNA
<213> Homo sapiens

<400> 5679

4847

nngcccctcc aggagggagc cgggagatta cgcagctcca tgtaggtcta cgtttaggtt
60
gggaggatct accatgaaga aggtcaagaa gaaaaggtca gaggccagac gccaccggac
120
tccacctccc agcatgctgg ctccaattcc acctctcagc agcctagccc tgaatccaca
180
ccacagcagc ctagtcctga atccacacca cagcagccta gccctgaatc cacaccacag
240
cattccagcc ttgaaaccac ctcccggcag ccagcattcc aagcccttcc agcacccgaa
300
atccgccgct cctcttgctg cctttttatct ccagatgcta acgtgaaggc agcccctcaa
360
tccaggaaag cagaaaatct tcaagaaaac cctccagtca tcgtaacgcg tgtcctccaa
420
gccctcggaa ctgtggctgt ggctctgggg gctctaggag ctgcctacta catcactgaa
480
tccttgtgaa caagccccta ggcccacagt ctggcagacc tccaccagcc ccaggagttg
540
ataggtgatg gcgctgggag aagatgttca gaatatctca aaagccaagt ccagaagatc
600
cagtttccat caaagggacc tctcttgtca ccaaaattta aaaaagaaa aaaaaacga
660
aaaaa
665

<210> 5680
<211> 143
<212> PRT
<213> Homo sapiens

<400> 5680
Val Gly Arg Ile Tyr His Glu Glu Gly Gln Glu Glu Lys Val Arg Gly
1   5   10   15
Gln Thr Pro Pro Asp Ser Thr Ser Gln His Ala Gly Ser Asn Ser Thr
            20   25   30
Ser Gln Gln Pro Ser Pro Glu Ser Thr Pro Gln Gln Pro Ser Pro Glu
        35   40   45
Ser Thr Pro Gln Gln Pro Ser Pro Glu Ser Thr Pro Gln His Ser Ser
    50   55   60
Leu Glu Thr Thr Ser Arg Gln Pro Ala Phe Gln Ala Leu Pro Ala Pro
65   70   75   80
Glu Ile Arg Arg Ser Ser Cys Cys Leu Leu Ser Pro Asp Ala Asn Val
                85   90   95
Lys Ala Ala Pro Gln Ser Arg Lys Ala Glu Asn Leu Gln Glu Asn Pro
                100   105   110
Pro Val Ile Val Thr Arg Val Leu Gln Ala Leu Gly Thr Val Ala Val
                115   120   125
Ala Leu Gly Ala Leu Gly Ala Ala Tyr Tyr Ile Thr Glu Ser Leu
    130   135   140

<210> 5681
<211> 1402
<212> DNA
<213> Homo sapiens

4848

<400> 5681

gggcggcctg gcagctggcg gcattgaggc ggaccgtcta gaggtccgtc tgaccgcggc
60

gtcgggacct ggtttccggg catgagctga gagcaccacg ccgaggccac gagtatttca
120

tagacattga tggaagcaga aaccaaaact cttcccctgg agaatgcatc catcctttca
180

gagggctctc tgcaggaagg acaccgatta tggattggca acctggaccc caaaattacc
240

gaataccacc tcctcaagct cctccagaag tttggcaagg taaagcagtt tgacttcctc
300

ttccacaagt caggtgcttt ggagggacag cctcgaggct actgttttgt taactttgaa
360

actaagcagg aagcagagca agccatccag tgtctcaatg gcaagttggc cctgtccaag
420

aagctggtgg tgcgatgggc acatgctcaa gtaaagagat atgatcataa caagaatgat
480

aagattcttc caatcagtct cgagccatcc tcaagcactg agcctactca gtctaaccta
540

agtgtcactg caaagataaa agccattgaa gcaaaactga aaatgatggc ggaaaatcct
600

gatgcagagt atccagcagc gcctgtttat tcctacttta agccaccaga taaaaaaagg
660

actactccat attctagaac agcatggaaa tctcgaagat gatggttgtg aattactgta
720

gcagcaaaag caaattggtc tccacaccta aaatcgtctg cctgtgtact ttgtagatgt
780

gaatggtact attcaacgga gcacaatcac atgttagcat ttggtaacat aatgtttttg
840

gatgttctta tggatgtttc ttccctaaac tatgtatgga attgagcatc atccagaata
900

aatagcgttg tatcccaaat tgtgatttga accctgggat gctctaattg gctggttggt
960

ttggatttgt aactccagaa acattctata gtgtgccaga gcaaaaggca aatacacaaa
1020

atattattta aatcaggaaa ctaaaaatat taacatctat taaaaaattg agcatttttc
1080

tacgctcgtg tgtcttttac aacataaaga aaaagtaaaa ggcagggagg gaagtgagag
1140

acagatttta aatcatgttc agaactgttg ttccagaatt tactacggca atccctccaa
1200

ctggactgaa aaagagaaag ttcttggcaa aaaggagctg attctttgaa caaatgttgt
1260

agtaatctgt ttaagaatta tgcttattgt ttcaaaatcc caactaggaa aacatggtgt
1320

atatcttaaa attgtttgtg ttgacaaaac tagaatcaaa tttaacattt tataccacat
1380

cacaagttct atttgggata tt
1402

<210> 5682
<211> 190
<212> PRT

4849

<213> Homo sapiens

<400> 5682
Met Glu Ala Glu Thr Lys Thr Leu Pro Leu Glu Asn Ala Ser Ile Leu
1   5   10   15
Ser Glu Gly Ser Leu Gln Glu Gly His Arg Leu Trp Ile Gly Asn Leu
                20   25   30
Asp Pro Lys Ile Thr Glu Tyr His Leu Leu Lys Leu Leu Gln Lys Phe
            35   40   45
Gly Lys Val Lys Gln Phe Asp Phe Leu Phe His Lys Ser Gly Ala Leu
        50   55   60
Glu Gly Gln Pro Arg Gly Tyr Cys Phe Val Asn Phe Glu Thr Lys Gln
65   70   75   80
Glu Ala Glu Gln Ala Ile Gln Cys Leu Asn Gly Lys Leu Ala Leu Ser
                85   90   95
Lys Lys Leu Val Val Arg Trp Ala His Ala Gln Val Lys Arg Tyr Asp
            100   105   110
His Asn Lys Asn Asp Lys Ile Leu Pro Ile Ser Leu Glu Pro Ser Ser
        115   120   125
Ser Thr Glu Pro Thr Gln Ser Asn Leu Ser Val Thr Ala Lys Ile Lys
    130   135   140
Ala Ile Glu Ala Lys Leu Lys Met Met Ala Glu Asn Pro Asp Ala Glu
145   150   155   160
Tyr Pro Ala Ala Pro Val Tyr Ser Tyr Phe Lys Pro Pro Asp Lys Lys
                165   170   175
Arg Thr Thr Pro Tyr Ser Arg Thr Ala Trp Lys Ser Arg Arg
            180   185   190

<210> 5683
<211> 328
<212> DNA
<213> Homo sapiens

<400> 5683
ggatccatgc gttgccctag ggaggcctca gctgtcaagc actgaccatc tctgcagaca
60
cgcagggctg acctgtactg gtgagtaagc attagccatg ggacgcacac aatccagcca
120
atgctttcag aaggcaccac atgtgatgca cagcctctat ttacatgtga ataattacac
180
tgctgctttc tggttaaaag tagggaaata cagtgttcca gggcatagga atggtgctct
240
gggtagaaaa gtttattttg ctggtgggag gcaggttttg ttaataaagc tttgaaatac
300
acaaatttca ttctggatgc tgatgctg
328

<210> 5684
<211> 103
<212> PRT
<213> Homo sapiens

<400> 5684
Met Lys Phe Val Tyr Phe Lys Ala Leu Leu Thr Lys Pro Ala Ser His

                                    4850

```
   1              5                  10                 15
Gln Gln Asn Lys Leu Phe Tyr Pro Glu His His Ser Tyr Ala Leu Glu
            20                  25                 30
His Cys Ile Ser Leu Leu Leu Thr Arg Lys Gln Gln Cys Asn Tyr Ser
            35                  40                 45
His Val Asn Arg Gly Cys Ala Ser His Val Val Pro Ser Glu Ser Ile
       50                  55                 60
Gly Trp Ile Val Cys Val Pro Trp Leu Met Leu Thr His Gln Tyr Arg
65                  70                 75                 80
Ser Ala Leu Arg Val Cys Arg Asp Gly Gln Cys Leu Thr Ala Glu Ala
                85                  90                 95
Ser Leu Gly Gln Arg Met Asp
            100
```

<210> 5685
<211> 604
<212> DNA
<213> Homo sapiens

<400> 5685
ccatgcagcc gcgtgggtgg caagcgggtg gtgtgctatg acgacagatt cattgtgaag
60
ctggcctacg agtctgacgg gatcgtggtt ccaacgaca cataccgtga cctccaaggc
120
gagcggcagg agtggaagcg cttcatcgag gagcggctgc tcatgtactc cttcgtcaat
180
gacaagtatg ttccctccca gaggccctga cagacttggg gtccacaggg gaagccagag
240
gtgcccttgg caaggtgga gctggggggct gggctctgcg gggccctgtg gccatgggag
300
gttgcgggtc ttggctccag gcagctttga gagtgagacg gatagctcac cacataggag
360
aaatcagacc gggaccaggc aggctgtggg gtggagagag tggctaattt gggagataga
420
gccgtagcac ttatgagggg atgtatgtgg ttgatggttc caggtggcct ctctacgaac
480
caacatggca tctctcgagc agaggccatg ggccagtggg tgcgggctgc catcccccga
540
cgacttcagg gagggagttc ccctaaaggt gcccatgggc tgtggccctc tagaccgggg
600
atcc
604

<210> 5686
<211> 69
<212> PRT
<213> Homo sapiens

<400> 5686
```
Pro Cys Ser Arg Val Gly Gly Lys Arg Val Val Cys Tyr Asp Asp Arg
1               5                  10                 15
Phe Ile Val Lys Leu Ala Tyr Glu Ser Asp Gly Ile Val Val Ser Asn
            20                  25                 30
Asp Thr Tyr Arg Asp Leu Gln Gly Glu Arg Gln Glu Trp Lys Arg Phe
```

4851

```
              35                  40                  45
Ile Glu Glu Arg Leu Leu Met Tyr Ser Phe Val Asn Asp Lys Tyr Val
     50                  55                  60
Pro Ser Gln Arg Pro
65


<210> 5687
<211> 328
<212> DNA
<213> Homo sapiens


<400> 5687
actctctccc gaccgcgtgg tgcgggtaag ggtggtggtg atggtggtgg tggtgagcgc
60
ccccggctct gcatgcacgc ctgcgtgaac accccgggct cttcccgttg cacctgcccc
120
ggtggatccg aaactctggc tgacgggaag agctgtgaga atgtggatga atgtgtgggc
180
ctgcagccgg tgtgcccccа ggggaccaca tgcatcaaca ccggtggaag cttccagtgt
240
gtcagccctg agtgccccga gggcagcggc aatgtgagct acgtgaagac gtctccattc
300
cagtgtgagc ggaacccctg ccccatgg
328


<210> 5688
<211> 109
<212> PRT
<213> Homo sapiens


<400> 5688
Thr Leu Ser Arg Pro Arg Gly Ala Gly Lys Gly Gly Gly Asp Gly Gly
1               5                  10                  15
Gly Gly Glu Arg Pro Arg Leu Cys Met His Ala Cys Val Asn Thr Pro
             20                  25                  30
Gly Ser Ser Arg Cys Thr Cys Pro Gly Gly Ser Glu Thr Leu Ala Asp
             35                  40                  45
Gly Lys Ser Cys Glu Asn Val Asp Glu Cys Val Gly Leu Gln Pro Val
        50                  55                  60
Cys Pro Gln Gly Thr Thr Cys Ile Asn Thr Gly Gly Ser Phe Gln Cys
65                  70                  75                  80
Val Ser Pro Glu Cys Pro Glu Gly Ser Gly Asn Val Ser Tyr Val Lys
                  85                  90                  95
Thr Ser Pro Phe Gln Cys Glu Arg Asn Pro Cys Pro Met
             100                 105


<210> 5689
<211> 1897
<212> DNA
<213> Homo sapiens


<400> 5689
nagtactaca aaatgtctgg cacatgacag atgctcatga taaaatgttt gacagttgaa
60
```

4852

```
tgaacaatca gaatcataga agagtgtgag cactggtcct ttgtcttcca ggtgggacag
120
tgtgtggtgg tcttcagcca ggctcctagt gggagagccc cactcagccc cagtttgaac
180
tctcgcccat cacctatcag tgccactncc tccagctctc gttcctgaaa cccgagagta
240
ccgctctcag tctccagtaa gaagcatgga tgaagctcct tgtgttaacg gccgctgggg
300
aacactgaga cccagggctc aaaggcagac tcctcaggtt cccgggaagg gagcctttcc
360
ccagccagag gagacggctc tcctatcctc aatggtggga gtttgtctcc aggaacggca
420
gctgtgggtg gctcttcttt ggacagtcct gtacaggcca tatctccaag tactccatct
480
gctgctgaag gatacgacct gaaaatagga ctttctttgg cccccgacg aggatcaacc
540
agatcagaaa gatctgagat taggatccat agatctgaat tgggatctaa acccgcttcc
600
agtagtaatc ccatggatgg catggacaat aggacagttg ggggaagtat gagacaccct
660
cctgaacaga caaatggtgt gcataccca cctcacgtgg ccagtgccct tgcaggggcc
720
gtctccccag gtgccctgcg tcggagtctg gaagccatca aagcgatgtc ctccaaaggc
780
ccctcggcct ctgcagcact aagtcctcct cttgggtctt ctccaggctc tcctgggagc
840
cagagtttga gcagtggaga aacagtgccc atccctcgcc cagggcctgc ccaaggagat
900
ggacattcct tacctcccat tgctcgccgc ctgggccacc accctccaca gtccctaaat
960
gttggcaaac ccctatacca gagtatgaac tgcaagccca tgcagatgta cgtgctggac
1020
attaaagaca ccaaggagaa ggggcgggtc aaatggaaag tatttaatag cagttctgtg
1080
gttggacctc ctgaaaccag cctgcatacc gtggtacaag cagggggtga actcatcata
1140
tttggaggac tcatggacaa gaaacagaat gtgaagtact atccaaaaac aaacgccttg
1200
tactttgtac gagcaaagag ataatgtgtt ctaaacccct ttcctttct gtggcttta
1260
atttggaatt ttccagtgtg taagcatttg gactgagaat tgggaaaaca aaattactcc
1320
cagaagccaa aactctttaa ttcccaaccg aagtcactcc aggctgggat caaatctcca
1380
ttaagaaaaa aaattatata taaatatata tatatatt atatagccaa ctctgttgac
1440
aaaaaaaggg agagatttcc atcctggttc agataaagtt gttgctgtgt tttaacaggg
1500
gctgggctgc cttttttctac cttgctggta actagaccaa gaagttagag aatagactaa
1560
catcagtaac ttcccaaaag aaactgaaga gccccctgta aatctttatg tggccttctt
1620
ggagttaaaa aatgaaaggg catatgtaag ttgcaaaggt ggagggtttt agactctcat
1680
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gcttcaggtg ctgtcggggt aaaagtaact gttttttcccc ttctcttaaa accacagagg
1740
acctgtgaca gctctgcaga aatgccagtg cctggccccc tcttgccttt tatggctgag
1800
gaaagttacc caacaaagga ttttattcca catttgtgtg ccgggtcatt gtgaaataat
1860
gtttatgcag ccaacatctg aaaaaaaaaa aaaaaaa
1897

<210> 5690
<211> 54
<212> PRT
<213> Homo sapiens

<400> 5690
Thr Ile Arg Ile Ile Glu Glu Cys Glu His Trp Ser Phe Val Phe Gln
1   5   10   15
Val Gly Gln Cys Val Val Val Phe Ser Gln Ala Pro Ser Gly Arg Ala
            20   25   30
Pro Leu Ser Pro Ser Leu Asn Ser Arg Pro Ser Pro Ile Ser Ala Thr
        35   40   45
Xaa Ser Ser Ser Arg Ser
    50

<210> 5691
<211> 1227
<212> DNA
<213> Homo sapiens

<400> 5691
aagcggaaaa acaattgcca tggcaaccac attgagatgc aggccatggc agagatgtac
60
aaccgtcctg tggaggtgta ccagtacagc acagaaccca tcaacacatt ccatgggata
120
catcaaaacg aggacgaacc cattcgtgtt agctaccatc ggaatatcca ctataattca
180
gtggtgaatc ctaacaaggc caccattggt gtggggctgg ctgccatca ttcaaaccag
240
ggtttgcaga gcagtctctg atgaagaatg ccataaaaac atcggaggag tcatggattg
300
aacagcagat gctagaagac aagaaacggg ccacagactg ggaggccaca aatgaagcca
360
tcgaggagca ggtggctcgg gaatcctacc tgcagtggtt gcgggatcag gagaaacagg
420
ctcgccaggt ccgaggcccc agccagcccc ggaaagccag cgccacatgc agttcggcca
480
cagcagcagc ctccagtggc ctggaggagt ggactagccg gtccccgcgg cagcggagtt
540
cagcctcgtc acctgagcac cctgagctgc atgctgaatt gggcatgaag cccccttccc
600
caggcactgt tttagctctt gccaaacctc cttcgccctg tgcgccaggt acaagcagtc
660
agttctcggc aggggccgac cgggcaactt ccccccttgt gtccctctac cctgctttgg
720

```
agtgccgggc cctcattcag cagatgtccc cctctgcctt tggtctgaat gactgggatg
780
atgatgagat cctagcttcg gtgctggcag tgtcccaaca ggaataccta gacagtatga
840
agaaaaacaa agtgcacaga gacccgcccc cagacaagag ttgatggaga cccagggatt
900
ggacaccatc tcccaacccc agggattcgg gcaagggtgc cgaagataga caagaggcac
960
acagagacag accaactggc agccaggcag ccccagagga gagagacatt cagacagagg
1020
aaagtctccc tgcccctcat tccttccaag atgagaaaaa cttgccgcca cccccgaca
1080
ctgatgccag ggaggtggga ggaagaagtg ggaaatttcc cttcccagta cccccaagaa
1140
cgtctgagcc ttcaatgttg aattttttct ttattaaaat tacttttatc ttataaaatc
1200
aactaatcaa aaatgaaaaa aaaaaaa
1227


<210> 5692
<211> 86
<212> PRT
<213> Homo sapiens


<400> 5692
Lys Arg Lys Asn Asn Cys His Gly Asn His Ile Glu Met Gln Ala Met
1               5                   10                  15
Ala Glu Met Tyr Asn Arg Pro Val Glu Val Tyr Gln Tyr Ser Thr Glu
            20                  25                  30
Pro Ile Asn Thr Phe His Gly Ile His Gln Asn Glu Asp Glu Pro Ile
            35                  40                  45
Arg Val Ser Tyr His Arg Asn Ile His Tyr Asn Ser Val Val Asn Pro
        50                  55                  60
Asn Lys Ala Thr Ile Gly Val Gly Leu Gly Cys His His Ser Asn Gln
65                  70                  75                  80
Gly Leu Gln Ser Ser Leu
                85


<210> 5693
<211> 389
<212> DNA
<213> Homo sapiens


<400> 5693
nacgcgtgtg ggataccct tcgcggggac agccaggcag aaagacgctg ctcctcctcg
60
gacactgggg cacctctgcg cctgtcccaa ggccacgctg gctctcttca ggcccatggc
120
tccaaccccg cagggcccct cgtcgggcgg tcccaactta gtcgtcccct gacgcggcct
180
ctgggccctc ccgggttggg gagctgacgg cagcttcccc ccacaggtgc ctctgagcct
240
cggaacatga tctacatgag ccgcttgggt atctggggcg agggcacacc cttccggaac
300
```

4855

```
tttgaggagt tcctgcacgc catcgagaag aggggcgttg gcgccatgga gatcgtggcc
360
atggacatga aggtcagcgg gcatgtaca
389
```

<210> 5694
<211> 60
<212> PRT
<213> Homo sapiens

<400> 5694

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Arg Gln Leu Pro Pro Thr Gly Ala Ser Glu Pro Arg Asn Met Ile Tyr
 1               5               10              15
Met Ser Arg Leu Gly Ile Trp Gly Glu Gly Thr Pro Phe Arg Asn Phe
            20              25              30
Glu Glu Phe Leu His Ala Ile Glu Lys Arg Gly Val Gly Ala Met Glu
        35              40              45
Ile Val Ala Met Asp Met Lys Val Ser Gly His Val
    50              55              60
```

<210> 5695
<211> 1417
<212> DNA
<213> Homo sapiens

<400> 5695

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gtggccctcc accggtcatt gaagcctcaa ggtcaggtgg gtgagcagga ggaggctggt
60
gccttgcggc aagccctaac cttttccctg ttggagcagc ccccgttgga ggcagaagag
120
cccccagata gggggactga tggcaaggcc cagctggtgg tgcactcggc ctttgagcag
180
gatgtggagg agctggaccg ggcgctcagg gctgccttgg aggtccacgt ccaggaggag
240
acggtggggc cctggcgccg cacactgcct gcagagctgc gtgctcgcct ggagcggtgc
300
catggtgtga gtgttgccct gcgtggtgac tgcaccatcc tccgtggctt cggggcccac
360
cctgcccgtg ctgcccgcca cttggtggca cttctggctg gcccctggga tcagagtttg
420
gcctttccct tggcagcttc aggccctacc ttggcggggc agacgctgaa ggggcccctgg
480
aacaacctgg agcgtctggc agagaacacc ggggagttcc aggaggtggt gcgggccttc
540
tacgacaccc tggacgctgc ccgcagcagc atccgcgtcg ttcgtgtgga gcgcgtgtcg
600
caccgctgc tgcagcagca gtatgagctg taccgggagc gcctgctgca gcgatgcgag
660
cggcgcccgg tggagcaggt gctgtaccac ggcacgacgg caccggcagt gcctgacatc
720
tgcgcccacg gcttcaaccg cagcttctgc ggccgcaacg ccacggtcta cgggaagggc
780
gtgtatttcg ccaggcgcgc ctccctgtcg gtgcaggacc gctactcgcc ccccaacgcc
840
```

```
gatggccata aggcggtgtt cgtggcacgg gtgctgactg gcgactacgg gcagggccgc
900
cgcggtctgc gggcgccccc tctgcggggt cctggccacg tgctcctgcg ctacgacagc
960
gccgtggact gcatctgcca gcccagcatc ttcgtcatct ccacgacac ccaggcgctg
1020
cccacccacc tcatcacctg cgagcacgtg ccccgcgctt cccccgacga cccctctggg
1080
ctcccgggcc gctccccaga cacttaaccg aaggggccac cctctggcct cctgcttccc
1140
aggctcccag ctccgcacag gctgatgctc cccgccccca actgtggccg cctgagctgt
1200
ccccggggac gcccctgcat ccctctgcgg gctccagaag gcggtgtggg ggatggcggt
1260
cagcagcggc cgaggggggc cgggctaggt cccagcctgg ccgaccccca ccaccagggg
1320
tcagcagagc ccaggagcga caccgcccgc cgccgctcc cagacctcgc ccgagtcggc
1380
tctgttgttt gaataaacgt gaacgtgaac ccagaaa
1417
```

<210> 5696
<211> 368
<212> PRT
<213> Homo sapiens

<400> 5696
```
Val Ala Leu His Arg Ser Leu Lys Pro Gln Gly Gln Val Gly Glu Gln
  1               5                  10                  15
Glu Glu Ala Gly Ala Leu Arg Gln Ala Leu Thr Phe Ser Leu Leu Glu
              20                  25                  30
Gln Pro Pro Leu Glu Ala Glu Glu Pro Pro Asp Arg Gly Thr Asp Gly
          35                  40                  45
Lys Ala Gln Leu Val Val His Ser Ala Phe Glu Gln Asp Val Glu Glu
      50                  55                  60
Leu Asp Arg Ala Leu Arg Ala Ala Leu Glu Val His Val Gln Glu Glu
65                  70                  75                  80
Thr Val Gly Pro Trp Arg Arg Thr Leu Pro Ala Glu Leu Arg Ala Arg
                  85                  90                  95
Leu Glu Arg Cys His Gly Val Ser Val Ala Leu Arg Gly Asp Cys Thr
              100                 105                 110
Ile Leu Arg Gly Phe Gly Ala His Pro Ala Arg Ala Ala Arg His Leu
          115                 120                 125
Val Ala Leu Leu Ala Gly Pro Trp Asp Gln Ser Leu Ala Phe Pro Leu
      130                 135                 140
Ala Ala Ser Gly Pro Thr Leu Ala Gly Gln Thr Leu Lys Gly Pro Trp
145                 150                 155                 160
Asn Asn Leu Glu Arg Leu Ala Glu Asn Thr Gly Glu Phe Gln Glu Val
                  165                 170                 175
Val Arg Ala Phe Tyr Asp Thr Leu Asp Ala Ala Arg Ser Ser Ile Arg
              180                 185                 190
Val Val Arg Val Glu Arg Val Ser His Pro Leu Leu Gln Gln Gln Tyr
          195                 200                 205
Glu Leu Tyr Arg Glu Arg Leu Leu Gln Arg Cys Glu Arg Arg Pro Val
```

```
        210                    215                    220
Glu Gln Val Leu Tyr His Gly Thr Thr Ala Pro Ala Val Pro Asp Ile
225                    230                    235                    240
Cys Ala His Gly Phe Asn Arg Ser Phe Cys Gly Arg Asn Ala Thr Val
                   245                    250                    255
Tyr Gly Lys Gly Val Tyr Phe Ala Arg Arg Ala Ser Leu Ser Val Gln
                   260                    265                    270
Asp Arg Tyr Ser Pro Pro Asn Ala Asp Gly His Lys Ala Val Phe Val
           275                    280                    285
Ala Arg Val Leu Thr Gly Asp Tyr Gly Gln Gly Arg Arg Gly Leu Arg
           290                    295                    300
Ala Pro Pro Leu Arg Gly Pro Gly His Val Leu Leu Arg Tyr Asp Ser
305                    310                    315                    320
Ala Val Asp Cys Ile Cys Gln Pro Ser Ile Phe Val Ile Phe His Asp
                   325                    330                    335
Thr Gln Ala Leu Pro Thr His Leu Ile Thr Cys Glu His Val Pro Arg
                   340                    345                    350
Ala Ser Pro Asp Asp Pro Ser Gly Leu Pro Gly Arg Ser Pro Asp Thr
           355                    360                    365
```

```
<210> 5697
<211> 3362
<212> DNA
<213> Homo sapiens
```

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<400> 5697
gtatccaatt caaagaatac aaaagggtat acagagaagt tggcctccct cctaccctgt
60
ccttcagcca ccagtgatga tgattcacgg ttcttcactg cacccagcca agggtacaga
120
tgggtcccaa aacctccgtg cctgaggaaa ggagcacgtt ttcctatgtg tgcaaaggtg
180
ccatgtgcgc ttgcaggttt gaaatgaggc gagtcttctt caagaagtca ggagaggggg
240
agtcttccaa tgaattcatc tttccttccc cccaaccatt cccctcttgg cttttctaga
300
atgttcgtgg catcagagag aaagatgaga gctcaccagg tgctcacctt cctcctgctc
360
ttcgtgatca cctcggtggc ctctgaaaac gccagcacat cccgaggctg tgggctggac
420
ctcctccctc agtacgtgtc cctgtgcgac ctggacgcca tctggggcat tgtggtggag
480
gcggtggccg gggcgggcgc cctgatcaca ctgctcctga tgctcatcct cctggtgcgg
540
ctgcccttca tcaaggagaa ggagaagaag agccctgtgg gcctccactt tctgttcctc
600
ctggggaccc tgggcctctt tgggctgacg tttgccttca tcatccagga ggacgagacc
660
atctgctctg ttcgccgctt cctctggggc gtcctctttg cgctctgctt ctcctgcctg
720
ctgagccagg catggcgcgt gcggaggctg gtgcggcatg cacgggccc cgcgggctgg
780
cagctggtgg gcctggcgct gtgcctgatg ctggtgcaag tcatcatcgc tgtggagtgg
840
```

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ctggtgctca ccgtgctgcg tgacacaagg ccagcctgcg cctacgagcc catggacttt
900
gtgatggccc tcatctacga catggtactg cttgtggtca ccctgggggct ggccctcttc
960
actctgtgcg gcaagttcaa gaggtggaag ctgaacgggg ccttcctcct catcacagcc
1020
ttcctctctg tgctcatctg ggtggcctgg atgaccatgt acctcttcgg caatgtcaag
1080
ctgcagcagg gggatgcctg gaacgacccc accttggcca tcacgctggc ggccagcggc
1140
tgggtcttcg tcatcttcca cgccatccct gagatccact gcaccttct gccagccctg
1200
caggagaaca cgcccaacta cttcgacacg tcgcagccca ggatgcggga gacggccttc
1260
gaggaggacg tgcagctgcc gcgggcctat atggagaaca aggccttctc catggatgaa
1320
cacaatgcag ctctccgaac agcaggattt cccaacggca gcttgggaaa aagacccagt
1380
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1440
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1500
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1560
cctggctgtg tctttcttga gggagaaatc ggtaacagtt gccgaaccag gccgcctcac
1620
agccaggaaa tttggaaatc ctagccaagg ggatttcgtg taaatgtgaa cactgacgaa
1680aacaccgact gcccgcccct cccctgccac acacacagac acgtaatacc     1740
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1800
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1920
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1980
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2040
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2100
gccagtagag gtggagggac cctggcatgt gccaaagaag aggccctctg ggtgatgaag
2160
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2220
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2280
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2340
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2400
ccagctgaaa gcccctccgg gaggcaggtt ggaaggcagg caccacggca ggttttccgc
2460
gatgatgtca cctagcaggg cttcaggggt tcccactagg atgcagagat gacctctcgc
2520
```

```
tgcctcacaa gcagtgacac ctcgggtcct ttccgttgct atggtgaaaa ttcctggatg
2580
gaatggatca catgagggtt tcttgttgct tttggagggt gtggggata ttttgttttg
2640
gtttttctgc aggttccatg aaaacagccc ttttccaagc ccattgtttc tgtcatggtt
2700
tccatctgtc ctgagcaagt cattcctttg ttatttagca tttcgaacat ctcggccatt
2760
caaagccccc atgttctctg cactgtttgg ccagcataac ctctagcatc gattcaaagc
2820
agagttttaa cctgacggca tggaatgtat aaatgagggt gggtccttct gcagatactc
2880
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2940
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3000
tgagctgagt atgtttcaat aaacctttg atatttctca aggccctagt ctctgctgtc
3060
tccctcccc accccatcct tgcaaagcac tggggaaagt aaggccaatc tggccctccc
3120
tgtgtgaccc gccttcgagt tttccttaac agttagtaca tttccttgtg ttaccacgca
3180
cggggaagaa aacgcatggc cccagaatgc cacccccacc tgacctcccc ggaagcaccc
3240
cgcctctgcc cagagcatgt gcttgcttct agagaatccc gttccagtca ttgcgtggac
3300
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3360
gt
3362
```

```
<210> 5698
<211> 403
<212> PRT
<213> Homo sapiens
```

```
<400> 5698
Met Phe Val Ala Ser Glu Arg Lys Met Arg Ala His Gln Val Leu Thr
1               5                   10                  15
Phe Leu Leu Leu Phe Val Ile Thr Ser Val Ala Ser Glu Asn Ala Ser
            20                  25                  30
Thr Ser Arg Gly Cys Gly Leu Asp Leu Leu Pro Gln Tyr Val Ser Leu
        35                  40                  45
Cys Asp Leu Asp Ala Ile Trp Gly Ile Val Val Glu Ala Val Ala Gly
    50                  55                  60
Ala Gly Ala Leu Ile Thr Leu Leu Leu Met Leu Ile Leu Leu Val Arg
65                  70                  75                  80
Leu Pro Phe Ile Lys Glu Lys Glu Lys Lys Ser Pro Val Gly Leu His
                85                  90                  95
Phe Leu Phe Leu Leu Gly Thr Leu Gly Leu Phe Gly Leu Thr Phe Ala
            100                 105                 110
Phe Ile Ile Gln Glu Asp Glu Thr Ile Cys Ser Val Arg Arg Phe Leu
        115                 120                 125
Trp Gly Val Leu Phe Ala Leu Cys Phe Ser Cys Leu Leu Ser Gln Ala
```

4860

```
              130                   135                   140
Trp Arg Val Arg Arg Leu Val Arg His Gly Thr Gly Pro Ala Gly Trp
145                   150                   155                   160
Gln Leu Val Gly Leu Ala Leu Cys Leu Met Leu Val Gln Val Ile Ile
                  165                   170                   175
Ala Val Glu Trp Leu Val Leu Thr Val Leu Arg Asp Thr Arg Pro Ala
                  180                   185                   190
Cys Ala Tyr Glu Pro Met Asp Phe Val Met Ala Leu Ile Tyr Asp Met
                  195                   200                   205
Val Leu Leu Val Val Thr Leu Gly Leu Ala Leu Phe Thr Leu Cys Gly
              210                   215                   220
Lys Phe Lys Arg Trp Lys Leu Asn Gly Ala Phe Leu Leu Ile Thr Ala
225                   230                   235                   240
Phe Leu Ser Val Leu Ile Trp Val Ala Trp Met Thr Met Tyr Leu Phe
                  245                   250                   255
Gly Asn Val Lys Leu Gln Gln Gly Asp Ala Trp Asn Asp Pro Thr Leu
                  260                   265                   270
Ala Ile Thr Leu Ala Ala Ser Gly Trp Val Phe Val Ile Phe His Ala
                  275                   280                   285
Ile Pro Glu Ile His Cys Thr Leu Leu Pro Ala Leu Gln Glu Asn Thr
              290                   295                   300
Pro Asn Tyr Phe Asp Thr Ser Gln Pro Arg Met Arg Glu Thr Ala Phe
305                   310                   315                   320
Glu Glu Asp Val Gln Leu Pro Arg Ala Tyr Met Glu Asn Lys Ala Phe
                  325                   330                   335
Ser Met Asp Glu His Asn Ala Ala Leu Arg Thr Ala Gly Phe Pro Asn
                  340                   345                   350
Gly Ser Leu Gly Lys Arg Pro Ser Gly Ser Leu Gly Lys Arg Pro Ser
                  355                   360                   365
Ala Pro Phe Arg Ser Asn Val Tyr Gln Pro Thr Glu Met Ala Val Val
                  370                   375                   380
Leu Asn Gly Gly Thr Ile Pro Thr Ala Pro Pro Ser His Thr Gly Arg
385                   390                   395                   400
His Leu Trp


<210> 5699
<211> 1565
<212> DNA
<213> Homo sapiens

<400> 5699
ttttttttttt tttttttttt tttttttttt tttttttcata gtgaaaccat tttctagaaa
60
atcaaatatt ttattttcat taaaaaaaaa ccttgaataa taggaatcat tttacacatt
120
aatggttgct ctttaaaagt tagaatctca agagatacca aaagcactta agagttacca
180
ccacattttg cccaagttct aaggaaagtt ctgaaactta gtggtggtgt gtttgtactc
240
agcaagctcc agacagtctg agttgctcat tccatgaaca gaagcttgaa aatgcccta
300
cagttgagat ataaacgagg gaagaggtga agctttcagg aagccagaga gccctgccg
360
```

```
gtcaggtttc ctgaggaagg caggggtgct ctatgctcat cagtcattca agcttctcag
420
gaaatgtgcc catcatggga acagcagcta tcttccaagc ttaaaaatta tgaatcccag
480
gaagttaaag cccaaccagc caaccacctt cacatccttc tcatactagt agagtcattc
540
aaaacagcaa gtggtgcttc tgaggcagcc tcaggaaggt ctttgggtgg ctattctaga
600
ggtgaacata ctggaaaggt ttttacctaa agcattttca gttgaaatga aaaagaagg
660
aaagctccaa aagtcagttt caaattcttt cagtgctgct cccagagaag tccgtgtgca
720
aaggtgtgat gttctggtca taagcggcat actcagaggt gccggtactg gccagcttga
780
gctgctgggc agcatgggtc agctggaatg cagcatcagg gtgggctgtc tcaggcagca
840
gtgtgcattc cctttccagc atgtcagcca cccctttcag caggtccagg aaaccaaagg
900
ctagagcggc ctttcgcaaa cggttcagct ccttatagaa tgtctgtgtt ttttcaggta
960
gtttccttgc atttcttaaa atcttctgta catctgtctg caggccgctg ggtttgatcc
1020
agacagtcac attctgggca taactgcgtt tgttttttggg ctgtaggggg aatggactct
1080
tattgtcatc ctcgccataa gggtttttctt tagcatctga aataggaccc aactgtgcca
1140
ttttcctag ccatgggaga ggttctgggc caggctcaaa gagagacatc atgaggtttg
1200
atttcttctt gctgtcagct tgggagtaga gcattccatg ccattcagga cctaattgaa
1260
caatcgctac cattccttcc acttttaggc taccatggag caggacacaa aagttgggta
1320
ttttgcctgc aatctgattg gctgaattct catcttcatt gtcatcagtg atgccagcac
1380
ccacctcatc accttctttg ttaagtgcta tgggcaagac cagatgcctg gacagaactg
1440
ggggacttga aatatcagct atatcaataa atcccactat ttccaaatct gtgttaatga
1500
ctttagggat aggatcaatt tcttcatcta caacaaaagg ttctggcctg gggaagactt
1560
gtacc
1565
```

```
<210> 5700
<211> 197
<212> PRT
<213> Homo sapiens
```

```
<400> 5700
Met Val Ala Ile Val Gln Leu Gly Pro Glu Trp His Gly Met Leu Tyr
1               5                   10                  15
Ser Gln Ala Asp Ser Lys Lys Lys Ser Asn Leu Met Met Ser Leu Phe
                20                  25                  30
Glu Pro Gly Pro Glu Pro Leu Pro Trp Leu Gly Lys Met Ala Gln Leu
```

4862

```
            35                      40                      45
Gly Pro Ile Ser Asp Ala Lys Glu Asn Pro Tyr Gly Glu Asp Asp Asn
        50                      55                      60
Lys Ser Pro Phe Pro Leu Gln Pro Lys Asn Lys Arg Ser Tyr Ala Gln
65                      70                      75                      80
Asn Val Thr Val Trp Ile Lys Pro Ser Gly Leu Gln Thr Asp Val Gln
                    85                      90                      95
Lys Ile Leu Arg Asn Ala Arg Lys Leu Pro Glu Lys Thr Gln Thr Phe
                100                     105                     110
Tyr Lys Glu Leu Asn Arg Leu Arg Lys Ala Ala Leu Ala Phe Gly Phe
            115                     120                     125
Leu Asp Leu Leu Lys Gly Val Ala Asp Met Leu Glu Arg Glu Cys Thr
        130                     135                     140
Leu Leu Pro Glu Thr Ala His Pro Asp Ala Ala Phe Gln Leu Thr His
145                     150                     155                     160
Ala Ala Gln Gln Leu Lys Leu Ala Ser Thr Gly Thr Ser Glu Tyr Ala
                165                     170                     175
Ala Tyr Asp Gln Asn Ile Thr Pro Leu His Thr Asp Phe Ser Gly Ser
                180                     185                     190
Ser Thr Glu Arg Ile
            195


<210> 5701
<211> 1885
<212> DNA
<213> Homo sapiens

<400> 5701
gccttgcaca tggagatgct tagctgaggg ggtggctttg ttagactatt tgcaggtcgt
60
gagatagagc ctgagatggg ggactgggcc cctgcctggg ggattgggtc gtgacctgtg
120
tggagcccca cactgagctg cagtgggtgg ggagggtggt ttacaggggt gctctgtgca
180
gcccctctga ttttcccctg ggagtcccag gtccagggga aggaggacag tggcccaggc
240
cacacagctc actgggcggc tctcactccc ccagggctgg ctgctggcgg gatggacacc
300
ctggaggagg tgacttgggc caatgggagc acagcgctac ccccacccct ggcaccaaac
360
atcagtgtgc ctcatcgctg cctgctgctg ctctacgaag acattggcac ctccagggtc
420
cggtactggg acctcttgct gctcatcccc aatgtgctct tcctcatctt cctgctctgg
480
aagcttccat ctgctcgggc gaagatccgc atcacctcca gccccatttt tatcaccttc
540
tacatcctgg tgtttgtggt ggcgctggtg ggcattgccc gggccgtggt atccatgacg
600
gtgagcacct cgaacgctgc aactgttgct gataagatcc tgtgggagat cacccgcttc
660
ttcctgctgg ccatcgagct gagtgtgatc atcctgggcc tggcctttgg ccacctggag
720
agtaagtcca gcatcaagcg ggtgctggcc atcaccacag tgctgtccct ggcctactct
780
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gtcacccagg ggaccctgga gatcctgtac cctgatgccc atctctcagc tgaggacttt
840
aatatctatg gccatggggg ccgccagttc tggctggtca gctcctgctt cttcttcctg
900
gtctactctc tggtggtcat ccttcccaag accccgctga aggagcgcat ctccctgcct
960
tctcggagga gcttctacgt gtatgcgggc atcctggcac tgctcaacct actgcagggg
1020
ctggggagtg tgctgctgtg cttcgacatc atcgaggggc tctgctgtgt agatgccaca
1080
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1140
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1200
gccagatgta cacctacccc agccctacgc tgtggcccgg cgggagggcc tggaggctgc
1260
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1320
ggtggcctac ctggatgaca tcgcttccat gccctgccac actggcagca tcaacagcac
1380
agacagcgag cgctggaagg ccatcaatgc ctgagggcag ctgccagggc ctgtggagga
1440
caggccagag aggaggccag caggcccaga gtccccaggg gaggaggacc aggtcaaggg
1500
acgttctgtg ggcagtagcc ctgtgtggcc ctgttcccac catgagtctg gaggccccac
1560
ctccctgggg ctcccaatcc cctttgccat ctctgctctc actggggacc ctcctcccct
1620
tcccacctgc tctcatactg ctcagtgaca tggcccaggc tttccttcca gggccatgct
1680
tggcaaggtt ggctgagggc accctccttc tctgcaccct tggcacgagg gcagggctgg
1740
ctctcccaat gcctccatcc catccccatg gtgctttggc ctcctcaaag catccaccat
1800
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1860
gcagaaaaaa aaaaaaaaag ttttg
1885

<210> 5702
<211> 348
<212> PRT
<213> Homo sapiens

<400> 5702
Met Asp Thr Leu Glu Glu Val Thr Trp Ala Asn Gly Ser Thr Ala Leu
1   5   10   15
Pro Pro Pro Leu Ala Pro Asn Ile Ser Val Pro His Arg Cys Leu Leu
            20   25   30
Leu Leu Tyr Glu Asp Ile Gly Thr Ser Arg Val Arg Tyr Trp Asp Leu
        35   40   45
Leu Leu Leu Ile Pro Asn Val Leu Phe Leu Ile Phe Leu Leu Trp Lys
    50   55   60
Leu Pro Ser Ala Arg Ala Lys Ile Arg Ile Thr Ser Ser Pro Ile Phe

4864

```
65                   70                   75                   80
Ile Thr Phe Tyr Ile Leu Val Phe Val Val Ala Leu Val Gly Ile Ala
                85                   90                   95
Arg Ala Val Val Ser Met Thr Val Ser Thr Ser Asn Ala Ala Thr Val
            100                   105                   110
Ala Asp Lys Ile Leu Trp Glu Ile Thr Arg Phe Phe Leu Leu Ala Ile
        115                   120                   125
Glu Leu Ser Val Ile Ile Leu Gly Leu Ala Phe Gly His Leu Glu Ser
        130                   ·     135                   140
Lys Ser Ser Ile Lys Arg Val Leu Ala Ile Thr Thr Val Leu Ser Leu
145                   150                   155                   160
Ala Tyr Ser Val Thr Gln Gly Thr Leu Glu Ile Leu Tyr Pro Asp Ala
                165                   170                   175
His Leu Ser Ala Glu Asp Phe Asn Ile Tyr Gly His Gly Gly Arg Gln
            180                   185                   190
Phe Trp Leu Val Ser Ser Cys Phe Phe Phe Leu Val Tyr Ser Leu Val
        195                   200                   205
Val Ile Leu Pro Lys Thr Pro Leu Lys Glu Arg Ile Ser Leu Pro Ser
    210                   215                   220
Arg Arg Ser Phe Tyr Val Tyr Ala Gly Ile Leu Ala Leu Leu Asn Leu
225                   230                   235                   240
Leu Gln Gly Leu Gly Ser Val Leu Leu Cys Phe Asp Ile Ile Glu Gly
                245                   250                   255
Leu Cys Cys Val Asp Ala Thr Thr Phe Leu Tyr Phe Ser Phe Phe Ala
            260                   265                   270
Pro Leu Ile Tyr Val Ala Phe Leu Arg Gly Phe Phe Gly Ser Glu Pro
        275                   280                   285
Lys Ile Leu Phe Xaa Leu Gln Met Pro Ser Gly Arg Asp Arg Gly Ala
        290                   295                   300
Arg Cys Thr Pro Thr Pro Ala Leu Arg Cys Gly Pro Ala Gly Gly Pro
305                   310                   315                   320
Gly Gly Cys Arg Gly Cys Trp Gly Leu Ser Cys Gln Leu Leu Glu His
                325                   330                   335
Ala Val Arg Leu Cys Arg Arg Gly Gly Leu Pro Gly
            340                   345
```

<210> 5703
<211> 1496
<212> DNA
<213> Homo sapiens

<400> 5703
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atgcacacac acacgcagac ctactatgaa ctggcttgtg ctcagcaaga gcagaattga
120
tgagcagata ccttaagaat cttttagagc aggaccacgt acaagggcaa atcctccttc
180
cagacctact cggactacct gcgctgggag agcttcctcc agcagcagct gcaggccttg
240
cccgagggct cagtcctgcg ccggggcttc cagacctgcg agcactggaa gcagatattc
300
atggaaatcg tagggggtgca gagcgccctg tgcggcctgg tgctatccct gctcatctgc
360

gtggccgcgg tggccgtgtt caccacccac atcctgctcc tgctgcccgt gctcctcagc
420
atcttgggca tcgtgtgcct ggtggtgacc atcatgtact ggagcggctg ggagatgggg
480
gctgtggaag ccatctccct gtccatcctc gttggctcct ccgtggatta ctgcgtccac
540
ctggtcgagg gctacctgct ggctggagag aacctgcccc cccaccaggc cgaggacgcc
600
cgaacgcagc gccagtggcg tacgctggag gccgtgcggc acgtgggcgt ggccatcgtc
660
tccagtgccc tcaccacggt catcgccaca gtgcccctct tcttctgcat catcgcccca
720
tttgccaagt cggcaagat tgtggcactc aacacgggcg tgtccatcct ctacacgctg
780
accgtcagca ccgccctgct gggcatcatg gcgcccagct ctttcactcg acccggact
840
tccttcctca aggccctggg tgccgtgctg ctggcagggg ccctgggggct gggtgcctgc
900
ctcgtgctcc tgcagagcgg ctataagatt cccctgcccg caggggcctc cctatagccc
960
gggacgggct ctggacactt gcacctttgg tcccatgggt gggggacagg agctgcttcc
1020
cagctcgact tcagctagct gtgtccccag gcctgggccc agggcgccct gcgggccagc
1080
gtggaggctg acacccacac agatggtgtg gaccatgctg ccttgtggag ctgggagttg
1140
gagacagccg ccaccccaca ggccgggcta ctggcagcca cactcggctt tttgcccagt
1200
ggcagaagag accagccctc ctcccatgcc cggtcaccat gggggtcagg ttattttgt
1260
aggggtctc cctctcacac tgcctcagtg ctcacaacct tccagtgtgg atgttacagg
1320
gtggccccca ttctaccgat gtgaaaactg aggcgccagg acacagtggc tgccctgtcg
1380
ctggatcagt agcagagcca gagctgcctc cgagcgccat gccgccctcg ggaatcatac
1440
aggaagagca cagtggatcc agggtggggg cctctcaccc cctaaccccg ccccc
1496

<210> 5704
<211> 269
<212> PRT
<213> Homo sapiens

<400> 5704
Ser Arg Thr Thr Tyr Lys Gly Lys Ser Ser Phe Gln Thr Tyr Ser Asp
1   5   10   15
Tyr Leu Arg Trp Glu Ser Phe Leu Gln Gln Gln Leu Gln Ala Leu Pro
            20   25   30
Glu Gly Ser Val Leu Arg Arg Gly Phe Gln Thr Cys Glu His Trp Lys
        35   40   45
Gln Ile Phe Met Glu Ile Val Gly Val Gln Ser Ala Leu Cys Gly Leu
    50   55   60
Val Leu Ser Leu Leu Ile Cys Val Ala Ala Val Ala Val Phe Thr Thr

4866

```
65                  70                  75                  80
His Ile Leu Leu Leu Leu Pro Val Leu Leu Ser Ile Leu Gly Ile Val
                85                  90                  95
Cys Leu Val Val Thr Ile Met Tyr Trp Ser Gly Trp Glu Met Gly Ala
            100                 105                 110
Val Glu Ala Ile Ser Leu Ser Ile Leu Val Gly Ser Ser Val Asp Tyr
        115                 120                 125
Cys Val His Leu Val Glu Gly Tyr Leu Leu Ala Gly Glu Asn Leu Pro
    130                 135                 140
Pro His Gln Ala Glu Asp Ala Arg Thr Gln Arg Gln Trp Arg Thr Leu
145                 150                 155                 160
Glu Ala Val Arg His Val Gly Val Ala Ile Val Ser Ser Ala Leu Thr
                165                 170                 175
Thr Val Ile Ala Thr Val Pro Leu Phe Phe Cys Ile Ile Ala Pro Phe
            180                 185                 190
Ala Lys Phe Gly Lys Ile Val Ala Leu Asn Thr Gly Val Ser Ile Leu
        195                 200                 205
Tyr Thr Leu Thr Val Ser Thr Ala Leu Leu Gly Ile Met Ala Pro Ser
    210                 215                 220
Ser Phe Thr Arg Thr Arg Thr Ser Phe Leu Lys Ala Leu Gly Ala Val
225                 230                 235                 240
Leu Leu Ala Gly Ala Leu Gly Leu Gly Ala Cys Leu Val Leu Leu Gln
                245                 250                 255
Ser Gly Tyr Lys Ile Pro Leu Pro Ala Gly Ala Ser Leu
            260                 265
```

```
<210> 5705
<211> 768
<212> DNA
<213> Homo sapiens

<400> 5705
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gggaagatgc cccggccgga gttgcccctg ccggagggct gggaggaggc gcgcgacttc
120
gacggcaagg tctactacat agaccacacg aaccgcacca ccagctggat cgacccgcgg
180
gacaggtaca ccaaaccact cacctttgct gactgcatta gcgacgagtt gccgctggga
240
tgggaagagg catatgaccc acaggttgga gattacttca tagaccacaa taccaaaacc
300
actcagattg aggatccaag ggtgcaatgg cggcgggagc aggaacatat gctgaaggat
360
tacctggtgg tggcccagga ggctctgagt gcacaaaagg agatctacca ggtgaagcag
420
cagcgcctgg agcttgcaca gcaggagtac cagcaactgc atgccgtctg ggagcataag
480
ctgggctccc aggtcagctt ggtctctggt tcatcatcca gctccaagta tgaccctgag
540
atcctgaaag ctgaaattgc cactgcagtt caaagagcgt ggctttcaga ccctgaagaa
600
aatcgataag aaaatgtctg atgctcaggg cagctacaaa ctggatgaag ctcaggctgt
660
```

4867

cttgagagaa acaaaagcca tcaaaaaggc tattacctgg agagttcgag tttcccgcta
720
ccgaaacatt acctggattt tagctcccag acagacatct cgggaagc
768

<210> 5706
<211> 202
<212> PRT
<213> Homo sapiens

<400> 5706
Xaa Glu Pro Leu Ser Pro Arg Cys Gly Arg Glu Leu His Gly Gly Ala
1   5   10   15
Arg Ala Arg Leu Gly Lys Met Pro Arg Pro Glu Leu Pro Leu Pro Glu
            20   25   30
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4868

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4869

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4870

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<212> PRT
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Glu Val Thr Glu Glu Asn Val Gln Val Leu Leu Pro Ala Ala Ser Leu
        35                  40                  45
Leu Gln Leu Met Asp Val Arg Gln Asn Cys Cys Asp Phe Leu Gln Ser
    50                  55                  60
Gln Leu His Pro Thr Asn Cys Leu Gly Ile Arg Ala Phe Ala Asp Val
65                  70                  75                  80
His Thr Cys Thr Asp Leu Leu Gln Gln Ala Asn Ala Tyr Ala Glu Gln
                85                  90                  95
His Phe Pro Glu Val Met Leu Gly Glu Glu Phe Leu Ser Leu Ser Leu
            100                 105                 110
Asp Gln Val Cys Ser Leu Ile Ser Ser Asp Lys Leu Thr Val Ser Ser
        115                 120                 125
Glu Glu Lys Val Phe Glu Ala Val Ile Ser Trp Ile Asn Tyr Glu Lys
    130                 135                 140
Glu Thr Arg Leu Glu His Met Ala Lys Leu Met Glu His Val Arg Leu
145                 150                 155                 160
Pro Leu Leu Pro Arg Asp Tyr Leu Val Gln Thr Val Glu Glu Glu Ala
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Leu Ile Lys Asn Asn Asn Thr Cys Lys Asp Phe Leu Ile Glu Ala Met
            180                 185                 190
Lys Tyr His Leu Leu Pro Leu Asp Gln Arg Leu Leu Ile Lys Asn Pro
        195                 200                 205
Arg Thr Lys Pro Arg Thr Pro Val Ser Leu Pro Lys Val Met Ile Val
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Val Gly Gly Gln Ala Pro Lys Ala Ile Arg Ser Val Glu Cys Tyr Asp
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Cys Arg Ala Gly Val Val Phe Met Ala Gly His Val Tyr Ala Val Gly
            260                 265                 270
Gly Phe Asn Gly Ser Leu Arg Val Arg Thr Val Asp Val Tyr Asp Gly
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Val Lys Asp Gln Trp Thr Ser Ile Ala Ser Met Gln Glu Arg Arg Ser
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Gly Ala Gly Val Gly Val Leu Ser Gly Gln Leu Tyr Ala Thr Gly Gly
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His Asp Gly Pro Leu Val Arg Lys Ser Val Glu Val Tyr Asp Pro Gly
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Ala Gly Val Cys Ala Val Asn Gly Leu Leu Tyr Val Val Gly Gly Asp
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<212> DNA
<213> Homo sapiens

<400> 5709
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        35                  40                  45
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Leu Trp Leu Ala Trp Trp Leu Arg Glu Tyr Ile Pro Thr Asn Ser Thr
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Cys Cys Gly Arg Cys His Ala Pro Met His Met Arg Gly Arg Tyr Leu
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Val Glu Val Asp Gln Ala Ser Phe Gln Cys Ser Ala Pro Phe Ile Met
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Lys Cys Arg Thr Pro Pro Met Ser Ser Val Lys Trp Leu Leu Pro Asn
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Gly Thr Val Leu Ser His Ala Ser Arg His Pro Arg Ile Ser Val Leu
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<212> DNA
<213> Homo sapiens

<400> 5711

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ttgaggaaat gcctagtgaa tgacagacaa cttgcctttg atgattttca agagagttgt
360

gctatgatgt ggcaaaagta tgcaggaagc aggcggtcaa tgcctctggg agcaaggatc
420

cttttccacg gtgtgttcta tgccgggggc tttgccattg tgtattacct cattcaaaag
480

tttcattcca gggctttata ttacaagttg gcagtggagc agctgcagag ccatcccgag
540

gcacaggaag ctctgggccc tcctctcaac atccattatc tcaagctcat cgacagggaa
600

aacttcgtgg acattgttga tgccaagttg aagattcctg tctctggatc caaatcagag
660

ggccttctct acgtccactc atccagaggt ggcccctttc agaggtggca ccttgacgag
720

gtcttttag agctcaagga tggtcagcag attcctgtgt tcaagctcag tggggaaaac
780

ggtgatgaag tgaaaaagga gtagagacga cccagaagac ccagcttgct tctagtccat
840

ccttccctca tctctaccat atggccactg gggtggtggc ccatctcagt gacagacact
900

cctgcaaccc agttttccag ccaccagtgg gatgatggta tgtgccagca catggtaatt
960

ttggtgtaat tctaacttgg gcacaacaaa tgctatttgt cattttaaa ctgaatccga
1020

aagaaactcc tattataaat ttaagataat gtaatgtatt tgaaagtgct ttgtataaaa
1080

aagcacatga taaaaggaat cagaattaat aaaatgtttg ttgatcttta aaaaaaaaaa
1140
1142

<210> 5712
<211> 145
<212> PRT
<213> Homo sapiens

<400> 5712
Met Trp Gln Lys Tyr Ala Gly Ser Arg Arg Ser Met Pro Leu Gly Ala
1   5   10   15
Arg Ile Leu Phe His Gly Val Phe Tyr Ala Gly Gly Phe Ala Ile Val
            20   25   30
Tyr Tyr Leu Ile Gln Lys Phe His Ser Arg Ala Leu Tyr Tyr Lys Leu
        35   40   45

```
Ala Val Glu Gln Leu Gln Ser His Pro Glu Ala Gln Glu Ala Leu Gly
    50                      55                  60
Pro Pro Leu Asn Ile His Tyr Leu Lys Leu Ile Asp Arg Glu Asn Phe
65                      70                  75                  80
Val Asp Ile Val Asp Ala Lys Leu Lys Ile Pro Val Ser Gly Ser Lys
                85                  90                  95
Ser Glu Gly Leu Leu Tyr Val His Ser Ser Arg Gly Gly Pro Phe Gln
            100                 105                 110
Arg Trp His Leu Asp Glu Val Phe Leu Glu Leu Lys Asp Gly Gln Gln
            115                 120                 125
Ile Pro Val Phe Lys Leu Ser Gly Glu Asn Gly Asp Glu Val Lys Lys
    130                     135                 140
Glu
145
```

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<210> 5713
<211> 1996
<212> DNA
<213> Homo sapiens
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<400> 5713
ncgagcgggt gctgctagcg gaggcgccat attggagggg acaaaactcc ggcgacagcg
60
agtgacacaa ataaacccct ggaccccctt gttccctcag ctctaagggc cgcgatgttg
120
tacctagaag actatctgga aatgattgag cagcttccta tggatctgcg ggaccgcttc
180
acggaaatgc gcgagatgga cctgcaggtg cagaatgcaa tggatcaact agaacaaaga
240
gtcagtgaat tctttatgaa tgcaaagaaa aataaacctg agtggaggga agagcaaatg
300
gcatccatca aaaaagacta ctataaagct ttggaagatg cagatgagaa ggttcagttg
360
gcaaaccaga tatatgactt ggtagatcga cacttgagaa agctggatca ggaactggct
420
aagtttaaaa tggagctgga agctgataat gctggaatta cagaaatatt agagaggcga
480
tctttggaat tagacactcc ttcacagcca gtgaacaatc accatgctca ttcacatact
540
ccagtggaaa aaggaaata taatccaact tctcaccata cgacaacaga tcatattcct
600
gaaaagaaat ttaaatctga agctcttcta tccaccctta cgtcagatgc ctctaaggaa
660
aatacactag gttgtcgaaa taataattcc acagcctctt ctaacaatgc ctacaatgtg
720
aattcctccc aacctctggg atcctataac attggctcgt tatcttcagg aactggtgca
780
ggggcaatta ccatggcagc tgctcaagca gttcaggcta cagctcagat gaaggaggga
840
cgaagaacat caagtttaaa agccagttat gaagcattta agaataatga ctttcagttg
900
ggaaaagaat tttcaatggc cagggaaaca gttggctatt catcatcttc ggcacttatg
960
```

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acaacattaa cacagaatgc cagttcatca gcagccgact cacggagtgg tcgaaagagc
1020
aaaaacaaca acaagtcttc aagccagcag tcatcatctt cctcctcctc ttcttcctta
1080
tcatcgtgtt cttcatcatc aactgttgta caagaaatct ctcaacaaac aactgtagtg
1140
ccagaatctg attcaaatag tcaggttgat tggacttacg acccaaatga acctcgatac
1200
tgcatttgta atcaggtatc ttatggtgag atggtgggat gtgataacca agattgccct
1260
atagaatggt tccattatgg ctgcgttgga ttgacagagg caccaaaagg caaatggtac
1320
tgtccacagt gcactgctgc aatgaagaga agaggcagca gacacaaata aaggtggtcc
1380
tttgtttga tgaagaaata aacttcagct gaagatttta tataggactt taaaaagaag
1440
agaagagaaa gaagaaacaa tgcatttcca ggcaaccact taaaggattt acatagacaa
1500
tcctataaga tcttgaactt gaattttatg ggttgtattt taataatgta agtaaattat
1560
ttatgcactc ctggtgtgct atgaatatta ttccagttag ccttggatta tttcagtggc
1620
caacatatgc agacatttgt actcctcaac cattttctca aagtaatggg cattctatga
1680
tttagacttc aaggaattcc aatgatgaag attttaagga aagtatttta tattcaacag
1740
gtatattctg ctgcatgtac tgtactccag agctgttatg taacactgta tataaatggt
1800
tgcaaaaaaa aaaagtcag tgcttctaaa aagaatttaa gataatggtt tttaaaatgc
1860
ctttataata agctttgttt ctttgtgaaa ctaattcagc aggctgaagg aaatggttca
1920
tgtgataatg tgggctggta tcctctagag tacctgggta cataaacgga aactcctgtt
1980
ggttaaaagt attttg
1996


<210> 5714
<211> 408
<212> PRT
<213> Homo sapiens

<400> 5714
Ile Glu Gln Leu Pro Met Asp Leu Arg Asp Arg Phe Thr Glu Met Arg
 1               5                   10                  15
Glu Met Asp Leu Gln Val Gln Asn Ala Met Asp Gln Leu Glu Gln Arg
            20                  25                  30
Val Ser Glu Phe Phe Met Asn Ala Lys Lys Asn Lys Pro Glu Trp Arg
        35                  40                  45
Glu Glu Gln Met Ala Ser Ile Lys Lys Asp Tyr Tyr Lys Ala Leu Glu
    50                  55                  60
Asp Ala Asp Glu Lys Val Gln Leu Ala Asn Gln Ile Tyr Asp Leu Val
65                  70                  75                  80
Asp Arg His Leu Arg Lys Leu Asp Gln Glu Leu Ala Lys Phe Lys Met
```

4879

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                     85                  90                  95
Glu Leu Glu Ala Asp Asn Ala Gly Ile Thr Glu Ile Leu Glu Arg Arg
               100                 105                 110
Ser Leu Glu Leu Asp Thr Pro Ser Gln Pro Val Asn Asn His His Ala
           115                 120                 125
His Ser His Thr Pro Val Glu Lys Arg Lys Tyr Asn Pro Thr Ser His
        130                 135                 140
His Thr Thr Thr Asp His Ile Pro Glu Lys Lys Phe Lys Ser Glu Ala
145                 150                 155                 160
Leu Leu Ser Thr Leu Thr Ser Asp Ala Ser Lys Glu Asn Thr Leu Gly
               165                 170                 175
Cys Arg Asn Asn Asn Ser Thr Ala Ser Ser Asn Asn Ala Tyr Asn Val
           180                 185                 190
Asn Ser Ser Gln Pro Leu Gly Ser Tyr Asn Ile Gly Ser Leu Ser Ser
           195                 200                 205
Gly Thr Gly Ala Gly Ala Ile Thr Met Ala Ala Ala Gln Ala Val Gln
        210                 215                 220
Ala Thr Ala Gln Met Lys Glu Gly Arg Arg Thr Ser Ser Leu Lys Ala
225                 230                 235                 240
Ser Tyr Glu Ala Phe Lys Asn Asn Asp Phe Gln Leu Gly Lys Glu Phe
               245                 250                 255
Ser Met Ala Arg Glu Thr Val Gly Tyr Ser Ser Ser Ser Ala Leu Met
           260                 265                 270
Thr Thr Leu Thr Gln Asn Ala Ser Ser Ser Ala Ala Asp Ser Arg Ser
           275                 280                 285
Gly Arg Lys Ser Lys Asn Asn Asn Lys Ser Ser Ser Gln Gln Ser Ser
        290                 295                 300
Ser Ser Ser Ser Ser Ser Ser Leu Ser Ser Cys Ser Ser Ser Ser Thr
305                 310                 315                 320
Val Val Gln Glu Ile Ser Gln Gln Thr Thr Val Val Pro Glu Ser Asp
               325                 330                 335
Ser Asn Ser Gln Val Asp Trp Thr Tyr Asp Pro Asn Glu Pro Arg Tyr
           340                 345                 350
Cys Ile Cys Asn Gln Val Ser Tyr Gly Glu Met Val Gly Cys Asp Asn
           355                 360                 365
Gln Asp Cys Pro Ile Glu Trp Phe His Tyr Gly Cys Val Gly Leu Thr
        370                 375                 380
Glu Ala Pro Lys Gly Lys Trp Tyr Cys Pro Gln Cys Thr Ala Ala Met
385                 390                 395                 400
Lys Arg Arg Gly Ser Arg His Lys
                   405
```

```
<210> 5715
<211> 1458
<212> DNA
<213> Homo sapiens

<400> 5715
nggaaaggag ggtcaggcga gtccacgtga gggaagcccc cgctgtgcgc ggagcctctg
60
ctgggcggag ggggagtgcc agcccccagg agctaatccc cggctgatgg cgcagggccg
120
ggggcttggc cgtctagtgt gatgaaggag cgaccccca aggtgggaag cgcacgggt
180
```

```
tggggtttga gggtggatga ttggtgacgg agggtgtatc ttcaggagga ggttcgagtg
240
aagatcaaag acttgaatga acacattgtt tgctgcctat gcgccggcta cttcgtggat
300
gccaccacca tcacagagtg tcttcatact ttctgcaaga gttgtattgt gaagtacctc
360
caaactagca agtactgccc catgtgcaac attaagatcc acgagacaca gccactgctc
420
aacctcaaac tggaccgggt catgcaggac atcgtgtata agctggtgcc tggcttgcaa
480
gacagtgaag agaaacggat tcgggaattc taccagtccc gaggtttgga ccgggtcacc
540
cagcccactg gggaagagcc agcactgagc aacctcggcc tccccttcag cagctttgac
600
cactctaaag cccactacta tcgctatgat gagcagttga acctgtgcct ggagcggctg
660
aggtgaggag aaggtcaggg gttgcaggag gtgacagtgc caatgaccca gagccaggga
720
gggtctaggg gagaggctga gcagtgagtg agtgcctatc cccttgaaga gagtatatca
780
tggctctggg tggggaagag gaggaaagat aggattccct aacctgtgtc tatttccccc
840
cagttctggc aaagacaaga ataaaagcgt cctgcaggtg agaagggctg aggggagggc
900
ctctctaagg agactcacct cccatggtcc ttccctcaca caccttgccc tcttccctcc
960
cctccctgct cccagaacaa gtatgtccga tgttctgtta gagctgaggt acgccatctc
1020
cggagggtcc tgtgtcaccg cttgatgcta aaccctcagc atgtgcagct cctttttgac
1080
aatgaagttc tccctgatca catgacaatg aagcagatat gcctctcccg ctggttcggc
1140
aaggtaagcc aggccaccct ccctgggatc acacccccctt cagactcccc ccaaccatcc
1200
tacagtcctc aggggaaggg tgggctgagg ggccctttga ataatataag aacattcccc
1260
acgtactcca acttcctcat tctctcctta gccatcccct ttgcttttac aataaagtgt
1320
gaaagagaag aggaggtagg ggccaagccc ccaccccatc ccactcccct tccctcccca
1380
gatatttatg tgaaatgaac tgcagcttta ttttttgaaa taaaaacttt taaaaagcaa
1440
aaaaaaaaaa aaaaaaaa
1458
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<210> 5716
<211> 148
<212> PRT
<213> Homo sapiens

<400> 5716

```
Leu Gln Glu Glu Val Arg Val Lys Ile Lys Asp Leu Asn Glu His Ile
1               5                   10                  15
Val Cys Cys Leu Cys Ala Gly Tyr Phe Val Asp Ala Thr Thr Ile Thr
```

```
                20                    25                    30
Glu Cys Leu His Thr Phe Cys Lys Ser Cys Ile Val Lys Tyr Leu Gln
         35                    40                    45
Thr Ser Lys Tyr Cys Pro Met Cys Asn Ile Lys Ile His Glu Thr Gln
     50                    55                    60
Pro Leu Leu Asn Leu Lys Leu Asp Arg Val Met Gln Asp Ile Val Tyr
65                    70                    75                    80
Lys Leu Val Pro Gly Leu Gln Asp Ser Glu Glu Lys Arg Ile Arg Glu
                   85                    90                    95
Phe Tyr Gln Ser Arg Gly Leu Asp Arg Val Thr Gln Pro Thr Gly Glu
              100                   105                   110
Glu Pro Ala Leu Ser Asn Leu Gly Leu Pro Phe Ser Ser Phe Asp His
         115                   120                   125
Ser Lys Ala His Tyr Tyr Arg Tyr Asp Glu Gln Leu Asn Leu Cys Leu
     130                   135                   140
Glu Arg Leu Arg
145
```

<210> 5717
<211> 1419
<212> DNA
<213> Homo sapiens

<400> 5717
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gggcccctcc ttggctgtat ccgtcagtgg ctccagggta agtctgcccc ccccaccctc
60
gtggggcggg gagcccgggg cagcccagag ctggggggaa ggggtggac ttttggcccg
120
tttcggttat tccctccatc tcgtcaacag ctgccgcgcg caggcttagc tcattcctct
180
gacctgccag gaagcagaga gacccacaga gcaggaggga ggcagaaagt ggagacggac
240
ctgagcccga ggaagaggca ggcagaggct gaggctgatt ccaccccagc ctgcctggac
300
aaccctcctt agccgcagcc ccttccagtt ccctaggggt tctgcccctc cccctctctg
360
gggcaccagc cccccagggt cctgcatccc accatgtcga tggctgtgga aacctttggc
420
ttcttcatgg caactgtggg gctgctgatg ctgggggtga ctctgccaaa cagctactgg
480
cgagtgtcca ctgtgcacgg gaacgtcatc accaccaaca ccatcttcga gaacctctgg
540
tttagctgtg ccaccgactc cctgggcgtc tacaactgct gggagttccc gtccatgctg
600
gccctctctg ggtatattca ggcctgccgg gcactcatga tcaccgccat cctcctgggc
660
ttcctcggcc tcttgctagg catagcgggc ctgcgctgca ccaacattgg gggcctggag
720
ctctccagga aagccaagct ggcggccacc gcaggggccc tccacattct ggccggtatc
780
tgcgggatgg tggccatctc ctggtacgcc ttcaacatca cccgggactt cttcgacccc
840
ttgtaccccg aaccaagta cgagctgggc cccgccctct acctggggtg gagcgcctca
900
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ctgatctcca tcctgggtgg cctctgcctc tgctccgcct gctgctgcgg ctctgacgag
960
gacccagccg ccagcgcccg gcggccctac caggctcccg tgtccgtgat gcccgtcgcc
1020
acctcggacc aagaaggcga cagcagcttt ggcaaatacg gcagaaacgc ctacgtgtag
1080
cagctctggc ccgtgggccc cgctgtcttc ccactgcccc aaggagaggg gacctggccg
1140
gggcccattc ccctatagta acctcagggg ccggccacgc cccgctcccg tagccccgcc
1200
ccggccacgg ccccgtgtct tgcactctca tggcccctcc aggccaagaa ctgctcttgg
1260
gaagtcgcat atctcccctc tgaggctgga tccctcatct tctgaccctg ggttctgggc
1320
tgtgaagggg acggtgtccc cgcacgtttg tattgtgtat aaatacattc attaataaat
1380
gcatattgtg accgttaaaa aaaaaaaaaa aaaaaaaa
1419

<210> 5718
<211> 228
<212> PRT
<213> Homo sapiens

<400> 5718
Met Ser Met Ala Val Glu Thr Phe Gly Phe Phe Met Ala Thr Val Gly
 1   5   10   15
Leu Leu Met Leu Gly Val Thr Leu Pro Asn Ser Tyr Trp Arg Val Ser
            20   25   30
Thr Val His Gly Asn Val Ile Thr Thr Asn Thr Ile Phe Glu Asn Leu
        35   40   45
Trp Phe Ser Cys Ala Thr Asp Ser Leu Gly Val Tyr Asn Cys Trp Glu
    50   55   60
Phe Pro Ser Met Leu Ala Leu Ser Gly Tyr Ile Gln Ala Cys Arg Ala
65   70   75   80
Leu Met Ile Thr Ala Ile Leu Leu Gly Phe Leu Gly Leu Leu Leu Gly
                85   90   95
Ile Ala Gly Leu Arg Cys Thr Asn Ile Gly Gly Leu Glu Leu Ser Arg
            100   105   110
Lys Ala Lys Leu Ala Ala Thr Ala Gly Ala Leu His Ile Leu Ala Gly
        115   120   125
Ile Cys Gly Met Val Ala Ile Ser Trp Tyr Ala Phe Asn Ile Thr Arg
    130   135   140
Asp Phe Phe Asp Pro Leu Tyr Pro Gly Thr Lys Tyr Glu Leu Gly Pro
145   150   155   160
Ala Leu Tyr Leu Gly Trp Ser Ala Ser Leu Ile Ser Ile Leu Gly Gly
                165   170   175
Leu Cys Leu Cys Ser Ala Cys Cys Cys Gly Ser Asp Glu Asp Pro Ala
                180   185   190
Ala Ser Ala Arg Arg Pro Tyr Gln Ala Pro Val Ser Val Met Pro Val
            195   200   205
Ala Thr Ser Asp Gln Glu Gly Asp Ser Ser Phe Gly Lys Tyr Gly Arg
        210   215   220
Asn Ala Tyr Val

4883

225

<210> 5719
<211> 2267
<212> DNA
<213> Homo sapiens

<400> 5719
ntgtcagcag agccctgtac cgtgcgcctc agcaaactcc tccatctatt gctccaaggc
60
ccgcctttga tgttaggtcc tggagaaggg gaagtggtgc gggacccaca ggtccagctg
120
ctccgtgcca tgcagtcggg aaagggaaac aggcactaat caaaggcaac tgctcactcg
180
tacctctttc ttctgaagca catgatgaag tctattctca gcagcgattt tctttacaaa
240
ctctttcgtt aatcccccca gagggaagat ggttctcctc agggcatcct gggaaacctg
300
gcatttctaa cttcaaaccg atttctgaaa agcccttcgg gcttcttaac gtgcttctgc
360
tcaaagactt cttcatcttc cagggaagtt cttgcatagt gacctgtggc aatggcatct
420
gccctgaac acatcattcc aatactcctt tacgtaggac acttgatgga aagggatgtc
480
taagatctgg caaactctgt aagcatcttc acagtctttg tcggcagtac agaccccatg
540
ttcatccagt gagtcccagt tcttcataaa caccccctgtc acctggtaac ctctccgcct
600
cagcagcagc gcggccacgg cgctgtccac gccgccggac agggcgcaca cgacgtgccg
660
caaggcctgc atccgccagt cgccccgtcc ggcggcgtgg acagcgccgt ggccgcgctg
720
ctgctgaggc ggagaggtta ccaggtgaca ggggtgttta tgaagaactg ggactcactg
780
gatgaacatg gggtctgtac tgccgacaaa gactgtgaag atgcttacag agtttgccag
840
atcttagaca tcccttttcca tcaagtgtcc tacgtaaagg agtattggaa tgatgtgttc
900
agtgactttt tgaatgagta tgaaaaagga aggactccca atcctgacat agtttgcaac
960
aagcacatca aatttagttg ctttttttcat tatgctgtgg ataatcttgg ggcagatgcc
1020
attgccacag gtcactatgc aagaacttcc ctggaagatg aagaagtctt tgagcagaag
1080
cacgttaaga agcccgaagg gcttttcaga aatcggtttg aagttagaaa tgcggtaaaa
1140
ctcctccagg cagctgacag ctttaaagac cagaccttct ttctcagcca ggtttcccag
1200
gatgccctga ggagaaccat cttccctctg gggggattaa cgaaagagtt tgtaaagaaa
1260
atcgctgctg agaatagact tcatcatgtg cttcagaaga aagagagcat gggcatgtgt
1320
ttcatcggga agaggaattt tgaacatttc cttcttcagt atctgcagcc tcgacctggt
1380

cactttattt ccatagaaga caataaggtt ctgggaacac ataaaggttg gttcctgtat
1440
accttgggcc agagagcaaa cataggtggc ctgagagagc cctggtacgt ggtggagaag
1500
gacagcgtca agggtgacgt gtttgtggcc ccccggacag accacccagc cctgtacagg
1560
gacctgctga ggaccagccg cgtgcactgg attgcggagg agcctcccgc agcactggtc
1620
cgggacaaga tgatggagtg ccacttccga ttccgccacc agatggcact agtgccctgt
1680
gtgctgaccc tcaatcaaga tggcaccgtg tgggtgacag ctgtgcaggc tgtgcgtgcc
1740
cttgccacag gacagtttgc tgtgttctac aagggggacg agtgcctggg cagcgggaag
1800
atcctgcggc tggggccgtc tgcctacacg ctccagaagg ccagcgcag agctgggatg
1860
gccactgaga gccccagtga cagcccagaa gatggtccag gcctgagtcc cttgctctga
1920
cagagatgga tctgctagaa ggaacctgga gagcaggacc catggctggg cggctggtga
1980
gcagtccagg tgcccaaggg ccagcttgct gctgcccaaa gcagaggaag ccgggctggc
2040
tgagggtccg aaaagcctgc aggggcccgg cgagccccag gaagagcctc agctccaggc
2100
tggggctctg gctgctggag catctgctgg ctggtggggt ggcccgagtt cccccttcacc
2160
gcccccaggg agggtttccc acctcagagt acaccgaggg gacctgcaga gggggctgtc
2220
gggacagcgt ggaataaaca ttatttcaag gaaaaaaaaa aaaaaaa
2267

<210> 5720
<211> 455
<212> PRT
<213> Homo sapiens

<400> 5720
Val Pro Val Leu His Lys His Pro Cys His Leu Val Thr Ser Pro Pro
1   5   10   15
Gln Gln Gln Arg Gly His Gly Ala Val His Ala Ala Gly Gln Gly Ala
                20   25   30
His Asp Val Pro Gln Gly Leu His Pro Pro Val Ala Pro Ser Gly Gly
            35   40   45
Val Asp Ser Ala Val Ala Ala Leu Leu Leu Arg Arg Arg Gly Tyr Gln
        50   55   60
Val Thr Gly Val Phe Met Lys Asn Trp Asp Ser Leu Asp Glu His Gly
65   70   75   80
Val Cys Thr Ala Asp Lys Asp Cys Glu Asp Ala Tyr Arg Val Cys Gln
                85   90   95
Ile Leu Asp Ile Pro Phe His Gln Val Ser Tyr Val Lys Glu Tyr Trp
            100   105   110
Asn Asp Val Phe Ser Asp Phe Leu Asn Glu Tyr Glu Lys Gly Arg Thr
            115   120   125
Pro Asn Pro Asp Ile Val Cys Asn Lys His Ile Lys Phe Ser Cys Phe

```
                130                  135                  140
Phe His Tyr Ala Val Asp Asn Leu Gly Ala Asp Ala Ile Ala Thr Gly
145                  150                  155                  160
His Tyr Ala Arg Thr Ser Leu Glu Asp Glu Glu Val Phe Glu Gln Lys
                165                  170                  175
His Val Lys Lys Pro Glu Gly Leu Phe Arg Asn Arg Phe Glu Val Arg
                180                  185                  190
Asn Ala Val Lys Leu Leu Gln Ala Ala Asp Ser Phe Lys Asp Gln Thr
                195                  200                  205
Phe Phe Leu Ser Gln Val Ser Gln Asp Ala Leu Arg Arg Thr Ile Phe
                210                  215                  220
Pro Leu Gly Gly Leu Thr Lys Glu Phe Val Lys Lys Ile Ala Ala Glu
225                  230                  235                  240
Asn Arg Leu His His Val Leu Gln Lys Lys Glu Ser Met Gly Met Cys
                245                  250                 .255
Phe Ile Gly Lys Arg Asn Phe Glu His Phe Leu Leu Gln Tyr Leu Gln
                260                  265                  270
Pro Arg Pro Gly His Phe Ile Ser Ile Glu Asp Asn Lys Val Leu Gly
                275                  280                  285
Thr His Lys Gly Trp Phe Leu Tyr Thr Leu Gly Gln Arg Ala Asn Ile
                290                  295                  300
Gly Gly Leu Arg Glu Pro Trp Tyr Val Val Glu Lys Asp Ser Val Lys
305                  310                  315                  320
Gly Asp Val Phe Val Ala Pro Arg Thr Asp His Pro Ala Leu Tyr Arg
                325                  330                  335
Asp Leu Leu Arg Thr Ser Arg Val His Trp Ile Ala Glu Glu Pro Pro
                340                  345                  350
Ala Ala Leu Val Arg Asp Lys Met Met Glu Cys His Phe Arg Phe Arg
                355                  360                  365
His Gln Met Ala Leu Val Pro Cys Val Leu Thr Leu Asn Gln Asp Gly
                370                  375                  380
Thr Val Trp Val Thr Ala Val Gln Ala Val Arg Ala Leu Ala Thr Gly
385                  390                  395                  400
Gln Phe Ala Val Phe Tyr Lys Gly Asp Glu Cys Leu Gly Ser Gly Lys
                405                  410                  415
Ile Leu Arg Leu Gly Pro Ser Ala Tyr Thr Leu Gln Lys Gly Gln Arg
                420                  425                  430
Arg Ala Gly Met Ala Thr Glu Ser Pro Ser Asp Ser Pro Glu Asp Gly
                435                  440                  445
Pro Gly Leu Ser Pro Leu Leu
     450                  455
```

```
<210> 5721
<211> 400
<212> DNA
<213> Homo sapiens

<400> 5721
ttagacatag ctaaccagac aggcagatca atcagaattc ccccatcaga aagaaaagcc
60
cttatgttag ctatgggata tcatgagaag ggcagagctt tcctgaaaag aaaagaatat
120
ggaatagcct tgccatgtct gttggacgct gacaaatatt tctggtgggc gcttttgtac
180
```

4886

```
ttggtgaaca ccagctttaa ggaagatggc ccagactata cagaacacct gccatgccct
240
tgagactgca gactttcatc tacaacagtg gttaatgtaa aagagtagtt atggtgtaaa
300
ctggtgaatt tcttcttccc tttgtatttc taattgacct ttcctccctg taaagaaaag
360
aattttcaag caggtaggat atgctctctt tttctgtaca
400
```

<210> 5722
<211> 80
<212> PRT
<213> Homo sapiens

<400> 5722

```
Leu Asp Ile Ala Asn Gln Thr Gly Arg Ser Ile Arg Ile Pro Pro Ser
 1               5                  10                  15
Glu Arg Lys Ala Leu Met Leu Ala Met Gly Tyr His Glu Lys Gly Arg
                20                  25                  30
Ala Phe Leu Lys Arg Lys Glu Tyr Gly Ile Ala Leu Pro Cys Leu Leu
            35                  40                  45
Asp Ala Asp Lys Tyr Phe Trp Trp Ala Leu Leu Tyr Leu Val Asn Thr
        50                  55                  60
Ser Phe Lys Glu Asp Gly Pro Asp Tyr Thr Glu His Leu Pro Cys Pro
65                  70                  75                  80
```

<210> 5723
<211> 376
<212> DNA
<213> Homo sapiens

<400> 5723

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nntaccacat tttcttcttt tcacccaccc cagccaaaac tcagtgccct caaggctcgg
60
aagaatgtgg agagttttct agaagcctgt cgaaaaatgg gggtgcctga ggtatggggg
120
ctgctttcta aagagtggtg gcatgccgga ctcagcggag ccatgtggca tggatggtgg
180
gcttccattt gcagcggatg tctgctctca gatgaaggca caggctgccc ctgcctgccc
240
cagcatgccc cctgccctgc atgccccctg ccctgcatgt cacctgtcct acacatcccc
300
tgccctgcag gccccatctt gtcctgcatg tcacctgtcc tgcacatgcc ctgccctgca
360
ctcctcctgc acgcgt
376
```

<210> 5724
<211> 125
<212> PRT
<213> Homo sapiens

<400> 5724

```
Xaa Thr Thr Phe Ser Ser Phe His Pro Pro Gln Pro Lys Leu Ser Ala
```

```
 1              5                 10                15
Leu Lys Ala Arg Lys Asn Val Glu Ser Phe Leu Glu Ala Cys Arg Lys
            20                  25                30
Met Gly Val Pro Glu Val Trp Gly Leu Leu Ser Lys Glu Trp Trp His
            35                  40                45
Ala Gly Leu Ser Gly Ala Met Trp His Gly Trp Trp Ala Ser Ile Cys
            50                  55                60
Ser Gly Cys Leu Leu Ser Asp Glu Gly Thr Gly Cys Pro Cys Leu Pro
65                  70                  75                80
Gln His Ala Pro Cys Pro Ala Cys Pro Leu Pro Cys Met Ser Pro Val
                85                  90                95
Leu His Ile Pro Cys Pro Ala Gly Pro Ile Leu Ser Cys Met Ser Pro
                100                 105               110
Val Leu His Met Pro Cys Pro Ala Leu Leu Leu His Ala
            115                 120               125
```

<210> 5725
<211> 1160
<212> DNA
<213> Homo sapiens

<400> 5725

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gctttttttc cttttctccc tccgcgtctc cttttttgact ccctccccct ttatgctcgc
60
ccagccctcc ccctgctgct gagaagtggg ggagggtctc ggcctccagg ttcccgcccc
120
accgcgcacg ggcgagcatg gggggcaagc agagcacggc gacccgctcc cggggggcccc
180
ttcccggggg tctccaccga tgacagcgcc gtgccgccgc cgggaggggc gccccatttc
240
gggcactacc ggacgggcgg cggggccatg gggctgcgca gcgcatcggt cagctcggtg
300
gcaggcatgg gcatggaccc cagcacggcc ggggggggtgc cctttggcct ctacaccccc
360
gcctcccggg gcaccggcga ctccgagagg gcgcccggcg cggagggtc tgcgtccgac
420
tccacctatg cccatggcaa tggttaccag gagacgggcg gcggtcacca tagagacggg
480
atgctgtacc tgggctcccg agcctcgctg gcggatgctc tacctctgca catcgcaccc
540
aggtggttca gctcgcatag tggtttcaag tgccccattt gctccaagtc tgtggcttct
600
gacgagatgg aaatgcactt tataatgtgt ttgagcaaac ctcgcctctc ctacaacgat
660
gatgtgctga ctaaagacgc gggtgagtgt gtgatctgcc tggaggagct gctgcagggg
720
gacacgatag ccaggctgcc ctgcctgtgc atctatcaca aaagctgcat agactcgtgg
780
tttgaagtga acagatcttg tccggaacac cctgcggact gacctgcggg cttgcttgct
840
gactcctctc aaagggacag agcgcccctg ctccagggag gaggctcacc ggaccctggg
900
gcagagctga gcttgggaca ccagcgggaa cagggcaccc cttctgcact gacttccaga
960
```

```
tcatggttct cccttcctcc ctgaggacac caaattggat gagagcaagt ttgagagaag
1020
aatgaatcaa ctgctatcct tcccctcacc cctcagccca ggagggaaag ggcattttct
1080
ttttcatctt tgaaaggcat tgtgggtctg tctttaaagt gtttacaaaa aaattatata
1140
aaaaaaagtc tagtgtcgac
1160
```

<210> 5726
<211> 273
<212> PRT
<213> Homo sapiens

<400> 5726

```
Ala Phe Phe Pro Phe Leu Pro Pro Arg Leu Leu Phe Asp Ser Leu Pro
 1               5                  10                  15
Leu Tyr Ala Arg Pro Ala Leu Pro Leu Leu Leu Arg Ser Gly Gly Gly
             20                  25                  30
Ser Arg Pro Pro Gly Ser Arg Pro Thr Ala His Gly Arg Ala Trp Gly
         35                  40                  45
Ala Ser Arg Ala Arg Arg Pro Ala Pro Gly Gly Pro Phe Pro Gly Val
     50                  55                  60
Ser Thr Asp Asp Ser Ala Val Pro Pro Pro Gly Gly Ala Pro His Phe
65                  70                  75                  80
Gly His Tyr Arg Thr Gly Gly Gly Ala Met Gly Leu Arg Ser Ala Ser
                 85                  90                  95
Val Ser Ser Val Ala Gly Met Gly Met Asp Pro Ser Thr Ala Gly Gly
            100                 105                 110
Val Pro Phe Gly Leu Tyr Thr Pro Ala Ser Arg Gly Thr Gly Asp Ser
        115                 120                 125
Glu Arg Ala Pro Gly Gly Gly Gly Ser Ala Ser Asp Ser Thr Tyr Ala
    130                 135                 140
His Gly Asn Gly Tyr Gln Glu Thr Gly Gly Gly His His Arg Asp Gly
145                 150                 155                 160
Met Leu Tyr Leu Gly Ser Arg Ala Ser Leu Ala Asp Ala Leu Pro Leu
                165                 170                 175
His Ile Ala Pro Arg Trp Phe Ser Ser His Ser Gly Phe Lys Cys Pro
            180                 185                 190
Ile Cys Ser Lys Ser Val Ala Ser Asp Glu Met Glu Met His Phe Ile
        195                 200                 205
Met Cys Leu Ser Lys Pro Arg Leu Ser Tyr Asn Asp Asp Val Leu Thr
    210                 215                 220
Lys Asp Ala Gly Glu Cys Val Ile Cys Leu Glu Glu Leu Leu Gln Gly
225                 230                 235                 240
Asp Thr Ile Ala Arg Leu Pro Cys Leu Cys Ile Tyr His Lys Ser Cys
                245                 250                 255
Ile Asp Ser Trp Phe Glu Val Asn Arg Ser Cys Pro Glu His Pro Ala
            260                 265                 270
Asp
```

<210> 5727
<211> 1237

```
<212> DNA
<213> Homo sapiens

<400> 5727
ntgagaaggg aggtgaccac caggactggc tctgtgagta ccacacagtg ggaggggggtg
60
ggggccacca tgtcatcata tcagaaggaa ctggagaaat acagagacat agatgaagat
120
gagatcctaa ggaccttgag ccccgaggag ctagagcagc tggactgcga actacaggag
180
atggatcctg agaacatgct cctgccagct ggactaagac aacgtgacca gacaaagaag
240
agcccaacgg ggccactgga ccgagaggcc cttttgcagt acttggagca acaggcacta
300
gaagtcaaag agcgtgatga cttggtgccc ttcacaggcg agaagaaggg gaaaccctat
360
attcagccca gagggaaat cccagcagag gagcagatca ccctggagcc tgagctggag
420
gaggcactgg cacatgccac agatgctgaa atgtgtgaca ttgcagcaat tctggacatg
480
tacacactga tgagtaacaa gcaatactat gatgccctct gcagtggaga aatctgcaac
540
actgaaggca ttagcagtgt ggtacagcct gacaagtata agccagtgcc ggatgaaccc
600
ccaaatccca caaacattga ggagatacta aagagggtcc gaagcaatga caaggagctg
660
gaggaggtga acttgaataa tatacaggac atcccaatac ccatgctaag tgagctgtgt
720
gaggcaatga aggcaaatac ctatgtgcgg agcttcagtc tggtagccac gaggagtggt
780
gacccccattg ccaatgcagt ggctgacatg ttgcgtgaga atcgtagcct ccagagccta
840
aacatcgaat ccaacttcat tagcagcaca ggactcatgg ctgtgctgaa ggcagttcgg
900
gaaaatgcca cactcactga gctccgtgta gacaatcagc gccagtggcc tggtgatgca
960
gtggagatgg agatggccac cgtgctagag cagtgtccct ctattgtccg ctttggctac
1020
cactttacac agcaggggcc acgagctcgg gcagcccagg ccatgacccg aaacaatgaa
1080
ctacgtcgcc agcaaaagaa gagataacac tgcatttccc tttaccaact agcgctggga
1140
gcactggaca cttaaatcct catctgtcct cctttcctgt aaataaaagc ccttctatcc
1200
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa
1237

<210> 5728
<211> 368
<212> PRT
<213> Homo sapiens

<400> 5728
Xaa Arg Arg Glu Val Thr Thr Arg Thr Gly Ser Val Ser Thr Thr Gln
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4890

```
     1                  5                   10                  15
Trp Glu Gly Val Gly Ala Thr Met Ser Ser Tyr Gln Lys Glu Leu Glu
                 20                  25                  30
Lys Tyr Arg Asp Ile Asp Glu Asp Glu Ile Leu Arg Thr Leu Ser Pro
             35                  40                  45
Glu Glu Leu Glu Gln Leu Asp Cys Glu Leu Gln Glu Met Asp Pro Glu
         50                  55                  60
Asn Met Leu Leu Pro Ala Gly Leu Arg Gln Arg Asp Gln Thr Lys Lys
65                  70                  75                  80
Ser Pro Thr Gly Pro Leu Asp Arg Glu Ala Leu Leu Gln Tyr Leu Glu
                 85                  90                  95
Gln Gln Ala Leu Glu Val Lys Glu Arg Asp Asp Leu Val Pro Phe Thr
             100                 105                 110
Gly Glu Lys Lys Gly Lys Pro Tyr Ile Gln Pro Lys Arg Glu Ile Pro
         115                 120                 125
Ala Glu Glu Gln Ile Thr Leu Glu Pro Glu Leu Glu Glu Ala Leu Ala
     130                 135                 140
His Ala Thr Asp Ala Glu Met Cys Asp Ile Ala Ala Ile Leu Asp Met
145                 150                 155                 160
Tyr Thr Leu Met Ser Asn Lys Gln Tyr Tyr Asp Ala Leu Cys Ser Gly
                 165                 170                 175
Glu Ile Cys Asn Thr Glu Gly Ile Ser Ser Val Val Gln Pro Asp Lys
             180                 185                 190
Tyr Lys Pro Val Pro Asp Glu Pro Pro Asn Pro Thr Asn Ile Glu Glu
         195                 200                 205
Ile Leu Lys Arg Val Arg Ser Asn Asp Lys Glu Leu Glu Glu Val Asn
     210                 215                 220
Leu Asn Asn Ile Gln Asp Ile Pro Ile Pro Met Leu Ser Glu Leu Cys
225                 230                 235                 240
Glu Ala Met Lys Ala Asn Thr Tyr Val Arg Ser Phe Ser Leu Val Ala
                 245                 250                 255
Thr Arg Ser Gly Asp Pro Ile Ala Asn Ala Val Ala Asp Met Leu Arg
                 260                 265                 270
Glu Asn Arg Ser Leu Gln Ser Leu Asn Ile Glu Ser Asn Phe Ile Ser
             275                 280                 285
Ser Thr Gly Leu Met Ala Val Leu Lys Ala Val Arg Glu Asn Ala Thr
         290                 295                 300
Leu Thr Glu Leu Arg Val Asp Asn Gln Arg Gln Trp Pro Gly Asp Ala
305                 310                 315                 320
Val Glu Met Glu Met Ala Thr Val Leu Glu Gln Cys Pro Ser Ile Val
                 325                 330                 335
Arg Phe Gly Tyr His Phe Thr Gln Gln Gly Pro Arg Ala Arg Ala Ala
                 340                 345                 350
Gln Ala Met Thr Arg Asn Asn Glu Leu Arg Arg Gln Gln Lys Lys Arg
             355                 360                 365
```

<210> 5729
<211> 381
<212> DNA
<213> Homo sapiens

<400> 5729
naaatttatt actacggatc acagcagcaa cgggcgggaa gggcggcgcc agactcattt
60

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gccccgcagg tagatcttgg gggtctgcca gccttcgggg gcttccttta gccccgcctt
120
cagccagatg cgcctcaggt ctttctcgaa cttgatctgc aagacgcaga gagagggacc
180
gccaagtaat tcgtggcaaa gaaacgtgtt ctcagcactt tgccctccca gggccaagca
240
gggggccact cacctgcttg cgtctcaggc gtccctcctg gaccttcctc cgcaggaacc
300
gcgtcttctt caccagcttc cggtacttgt ggtggttcat cttccgccgg cggatcttca
360
gcacgttttt gcactaaatt t
381


<210> 5730
<211> 64
<212> PRT
<213> Homo sapiens


<400> 5730
Phe Val Ala Lys Lys Arg Val Leu Ser Thr Leu Pro Ser Gln Gly Gln
  1               5                  10                  15
Ala Gly Gly His Ser Pro Ala Cys Val Ser Gly Val Pro Pro Gly Pro
             20                  25                  30
Ser Ser Ala Gly Thr Ala Ser Ser Ser Pro Ala Ser Gly Thr Cys Gly
         35                  40                  45
Gly Ser Ser Ser Ala Gly Gly Ser Ser Ala Arg Phe Cys Thr Lys Phe
     50                  55                  60


<210> 5731
<211> 891
<212> DNA
<213> Homo sapiens


<400> 5731
ccggccgcgt ccaggctgcg ggccgaagcc gggctcgggg cgctgccgcg gcgggcgctc
60
gcccagtact tgctcttcct gcggctctac ccggtgctca ccaaggcggc caccagtggc
120
attttgtcag cacttgggaa cttcctggcc cagatgattg agaagaagcg gaaaaaagaa
180
aactctagaa gtctggatgt cggtgggcct ctgagatatg ccgtttacgg gttcttcttc
240
acagggccgc tgagtcactt cttctacttc ttcatggaac attggatccc tcctgaggtc
300
cccctggcag ggctcaggag gcttctcctg gaccgcctcg tctttgcacc ggccttcctc
360
atgttgttct tcctcatcat gaactttctg gaggggaaag acgcctcagc cttcgccgcc
420
aagatgaggg ggggcttctg gccggcgctg aggatgaact ggcgggtgtg gacgccacta
480
cagttcatca acatcaacta cgtccctctg aagttccggg tgctcttcgc caacctggca
540
gctctgttct ggtatgccta cctggcctcc ttggggaagt gacgaccgct gggagaacat
600
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caggtgcact gtggacgtgg gtctgggggt ctcacccgcc cagcgagagc agaaccaatc
660
cagtcaggat gtcactgact ctaaatcagg tgattcaaga tgcccaaaaa tgatggatag
720
agaaacagaa atctctgaat gtcagaaccc tgtcttttaa aaaggcagtc actgccttca
780
ggtggtgctg ccccagaaac ttaaaattta gtcgaggcag tttcaattgt tactgtggac
840
cgaattagga tcacaataaa tgataatgca ggttcttcaa aaaaaaaaaa a
891

<210> 5732
<211> 193
<212> PRT
<213> Homo sapiens

<400> 5732
Pro Ala Ala Ser Arg Leu Arg Ala Glu Ala Gly Leu Gly Ala Leu Pro
1   5   10   15
Arg Arg Ala Leu Ala Gln Tyr Leu Leu Phe Leu Arg Leu Tyr Pro Val
            20   25   30
Leu Thr Lys Ala Ala Thr Ser Gly Ile Leu Ser Ala Leu Gly Asn Phe
        35   40   45
Leu Ala Gln Met Ile Glu Lys Lys Arg Lys Lys Glu Asn Ser Arg Ser
    50   55   60
Leu Asp Val Gly Gly Pro Leu Arg Tyr Ala Val Tyr Gly Phe Phe Phe
65   70   75   80
Thr Gly Pro Leu Ser His Phe Phe Tyr Phe Phe Met Glu His Trp Ile
                85   90   95
Pro Pro Glu Val Pro Leu Ala Gly Leu Arg Arg Leu Leu Leu Asp Arg
            100   105   110
Leu Val Phe Ala Pro Ala Phe Leu Met Leu Phe Phe Leu Ile Met Asn
        115   120   125
Phe Leu Glu Gly Lys Asp Ala Ser Ala Phe Ala Ala Lys Met Arg Gly
    130   135   140
Gly Phe Trp Pro Ala Leu Arg Met Asn Trp Arg Val Trp Thr Pro Leu
145   150   155   160
Gln Phe Ile Asn Ile Asn Tyr Val Pro Leu Lys Phe Arg Val Leu Phe
                165   170   175
Ala Asn Leu Ala Ala Leu Phe Trp Tyr Ala Tyr Leu Ala Ser Leu Gly
            180   185   190
Lys

<210> 5733
<211> 950
<212> DNA
<213> Homo sapiens

<400> 5733
nnccacgtcg tcattctccc cggggacggt gggagtggca cggccgccat cagcttcaca
60
ggggccttga aaattccagg cgtgatagag ttctcactgt gtctgctgtt tgccaagctg
120

4893

```
gtcagctata ctttcctctt ctggctgccc ctgtacatca cgaatgtgga tcaccttgat
180
gccaaaaagg cggggtgcac aggtagcccc gaccctctca ggcattccag ccacagaaca
240
tcaaagtgag cgagtactgc gctggctgtg gcttcagaga acctgtatgt gccacgtgga
300
aaaacaggac accagagccc accagacagt gccggccagc agagaagcag agagccagcg
360
ccacacaaca tcaagaaggc cgacaaccag gttggaaacc aagacggagc tcagacccac
420
cacatcgccc cagaggcttt tccagcaccc atgatgttcc ggactgacct aaaaactaat
480
tgtcgagaag ccaagggtga ggaggcagga agcacctccg gttggaggca cccaggcttg
540
ccagccacag agcgccccga agtcaccgtc atcccagccc ctggccttcc tgccgccctc
600
cggggccatg gcgctgctgt tcagctcagg cacaggggca cagcagaggt ttgggaagcg
660
gtctccccac cggcactggg attggcgggt ccaagcccag caaccggctt cgctccacaa
720
cacacaccac acctgggact gttttaata catagcaaca gactgggtta tttatttaag
780
atgtgtattg tgtcatatga agtttaagag acataaatgg cattttgtta tttattaaga
840
caaactccaa ttgttctctg ctgtttttt tcagttgtgt ctagcaaaat acttatctgc
900
cctttgaaat aaaatgtttt tgtttaaaaa atctcaaaaa aaaaaaaaa
950


<210> 5734
<211> 82
<212> PRT
<213> Homo sapiens

<400> 5734
Xaa His Val Val Ile Leu Pro Gly Asp Gly Gly Ser Gly Thr Ala Ala
1               5                   10                  15
Ile Ser Phe Thr Gly Ala Leu Lys Ile Pro Gly Val Ile Glu Phe Ser
            20                  25                  30
Leu Cys Leu Leu Phe Ala Lys Leu Val Ser Tyr Thr Phe Leu Phe Trp
        35                  40                  45
Leu Pro Leu Tyr Ile Thr Asn Val Asp His Leu Asp Ala Lys Lys Ala
    50                  55                  60
Gly Cys Thr Gly Ser Pro Asp Pro Leu Arg His Ser Ser His Arg Thr
65                  70                  75                  80
Ser Lys


<210> 5735
<211> 4241
<212> DNA
<213> Homo sapiens

<400> 5735
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4894

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ctagaattca gcggccgctg aattctagcg agcaggcggc aggcacggtc cgtgcggagc
60
aggcgagcga gcgggaagac gcagccacct tcctcaccag ccagcccaca gcggtttgtt
120
ccccttctcg ggagtgcgcc aatgcctggg ccgacccaaa ccctgtcccc aaatggcgag
180
aacaacaacg acatcatcca ggataataac gggaccatca ttcctttccg gaagcacaca
240
gtgcgcgggg agcgttccta cagttgggga atggcggtca atgtgtattc tacctcgata
300
acccaagaga ctatgagcag acatgacatc attgcatggg ttaatgacat agtatcttta
360
aactacacaa aagtggaaca gctttgttca ggagcggcct attgccaatt catggacatg
420
ctcttccctg gctgcattag tttgaagaaa gtaaaatttc aagcaaagct ggaacatgaa
480
tatattcaca attttaaact tctgcaagca tcatttaagc gaatgaacgt tgataaggta
540
attccagtgg agaagctagt gaaaggacgt ttccaggaca acctggattt tattcaatgg
600
tttaagaaat tctatgatgc taactacgat gggaaggagt atgatcctgt agaggcacga
660
caagggcaag atgcaattcc tcctcctgac cctggtgaac agatcttcaa cctgccaaaa
720
aagtctcacc atgcaaactc ccccacagca ggtgcagcta aatcaagtcc agcagctaaa
780
ccaggatcca caccttctcg accctcatca gccaaaaggg cttcttccag tggctcagca
840
tccaaatccg ataaagattt agaaacgcag gtcatacagc ttaatgaaca ggtacattca
900
ttaaaacttg cccttgaagg cgtggaaaag gaaagggatt ctactttgg gaagttgaga
960
gagatcgagc tactctgcca agaacacggg caggaaaatg atgacctcgt gcagagacta
1020
atggacatcc tgtatgcttc agaagaacac gagggccaca cagaagagcc ggaagcagag
1080
gagcaagccc acgaacagca gcccccgcag caggaagagt actgacccac cccggctgct
1140
cttgacactt ccattgtgtg tgggaacgtt tcttctggag aattggaaca tgtgtggccc
1200
caagctcaac agaaaccagt tgttcccaat ctgccgttac catcaacgca ctgttgcata
1260
tgccagccac tgcgcttggt tcccattttc tttgccaagg tgtattagcg gacggccctc
1320
tggccaccta cccgagagat cgtagggtca catacatcca acttcaccac ttggctgctt
1380
gagattggtt ctgctctttt cttcatttct ttccagaaca actctttccc accccaacac
1440
cactgccacc acccctcttt ttatcctggt gtgaaacaat ggtaatttga tatatggtat
1500
ttatattggc atttttcaac ccagtgtcac tagatgtcac acacatttgt ggtgctttga
1560
tgtttgcaag tctaacctct gaacataaat ttggtcaaat aattggaaca aagggaaaca
1620
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4895

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gatacttgat atgaaagcca taatgacggt gacttgtgtc gtgggggaaa acataaggtc
1680
attttctccc tctactcaca atactaaagg gaaaaaatgg attcaaagct aggatttcag
1740
ggcccagcag tgttcctcca tcagcatgtt agacaactac acagtatgtt gttagttttg
1800
aaagacattc actcaaggaa aacaccatct caactttgcc cgctcaccat gtcccttgcc
1860
cccatgtagc ccatttccca ggttatgctc ttttctttct cagggtcctc tttggtgggc
1920
agccactccc cgagatgttg ccatcagttt tctgcagtcc aaagagggta tggttaggta
1980
cgggtcttcc tgcctcattc ctcttcctct ttgtgtaggt ttcagccaca aaactgtcat
2040
tcactctagg ggacccctac taaagggtaa cttcaggtgt gcagccctga gctccaaggc
2100
tctgcaccat gccacacact tgctgtaagg ctagaagtga agaccttatt aataggagca
2160
taattgcgag ggagaatcat ggttctgcag tctggtgtag acactggaat aacagcacag
2220
aaaaatctat gactcccaat atcttctaga ataaagaatt ttccctcttt aacacaaggg
2280
ccctccttgt cattgacctt agctaaacca tggcaattca taaatagagg aaacattaat
2340
gaattaaaag cattccttat tttttaacta atatttgtac attttcttag tctctttcca
2400
agtctttgcc tctttttttt ctttattttt attttttcct ttgacagatg gtatcccttc
2460
ctggatcatt catttcacct tggtttctaa ctttaggttt actttcactt gttatttgac
2520
ttagcaggtg caacaaaaac aagaaacaaa tgtgcccacc ccactttccg cttaactgaa
2580
aagcttaaaa taaatttctg aattatgtat cctgaagctt tgaaatttct ttattaatcg
2640
atgaaatatg aattctaaat tctagcattg aagcttttca ccaaaagaag tctctccaaa
2700
ataaatcttt tgcagcaaag tgatatttat tgagttatgt ggaaaagatg gcttgtattt
2760
ttcagattat tacaacacac tgtgcagaat tagacagatg ttccgtggtg tttggtttcc
2820
ctttcttctc tctcctgctc actctgcatt atagcagcag cttatttctc taaggctgga
2880
cagcctggct ctcggcagtg acgtcctccc acacctggtc acaagtagta gtggctgtgc
2940
tatacccagc atcatgctta acagcgtgtt gcccttctga gcctgttgta ctcactgatc
3000
tctttaaaaa caaaaaatag ctcttgtaaa aggtcacaat aactctatgc acctgatact
3060
gcagtggttc ctaggccatt cttcatctgc tctggacatc tcagtcatac ccaatgctca
3120
gtggatcatg accaaactcc tgtcatgtgg atgcacgtga gtgggtagca gggagtcagg
3180
atcctgcctt ctccagcaac cccttactgc tgtataactt gcataagcct ccctggtgac
3240
```

```
tcttgcagga accactccat tgccctccag ctccccagcc ttctcagtta taaacatgct
3300
ggccagatct cttagcctgc aaagagaact ttccccagtc accatagacc attctccttc
3360
ctgaaggctt ggggcagacc attcgtttat ttagagaaga gctatacatt cttctttctg
3420
gtcccatctt aaacgtcttc tgttgtgctg caccccagat ggtgtctcag atgctttggg
3480
gaatctttaa cagctgaatt tgagtcagtc ctcttaggct gcacctccag cctctgcaga
3540
tccccctca tttcccatgg atggtgggac cccattattc tctcatctcg gcattcaggg
3600
aacagtttcc ttagcggccc ctggtcacat gtcatcgggc tgggcaggaa gcgtccctgg
3660
gtgcgtgctc cacttctccc tctcaggaag cccagtttca tccttagtac ccccccctcgt
3720
gcccgctgtc ggctggttat agcacttcca ctgctactgt cagataggaa gtgatcgaag
3780
cagggggcaa agagaaagcc catatttgtt ctaagcagaa aagcaggaaa aaaaaaaaa
3840
aagaaagaaa aacacctgtt gacctgagag aagtaaattc cagaagggaa ccaagaactc
3900
ttcccttccc tggtgagtat ttccattatt ccgttaaggt ttaatatgca ttcagattac
3960
ttttactaaa taggacacca taaagctttt gttatatatt aaatgtaaac tgaaaggaat
4020
gtaaacatat gtattgttaa ttataaatat agataagtaa tgacataata gatgaaaaag
4080
tcttattcag atgtatcaca ttcattttac attacccacc tattgtcgca tggtagaata
4140
gttttttgtc tctgaatatg tgaataactt gacttgcatt gatcttttta catatttaat
4200
aaaaaaaaaa gtatatgtta aaaaaaaaaa aaaaaaaaa a
4241
```

```
<210> 5736
<211> 327
<212> PRT
<213> Homo sapiens

<400> 5736
Met Pro Gly Pro Thr Gln Thr Leu Ser Pro Asn Gly Glu Asn Asn Asn
1                5                    10                  15
Asp Ile Ile Gln Asp Asn Asn Gly Thr Ile Ile Pro Phe Arg Lys His
             20                  25                  30
Thr Val Arg Gly Glu Arg Ser Tyr Ser Trp Gly Met Ala Val Asn Val
          35                  40                  45
Tyr Ser Thr Ser Ile Thr Gln Glu Thr Met Ser Arg His Asp Ile Ile
      50                  55                  60
Ala Trp Val Asn Asp Ile Val Ser Leu Asn Tyr Thr Lys Val Glu Gln
65                  70                  75                  80
Leu Cys Ser Gly Ala Ala Tyr Cys Gln Phe Met Asp Met Leu Phe Pro
                85                  90                  95
Gly Cys Ile Ser Leu Lys Lys Val Lys Phe Gln Ala Lys Leu Glu His
```

4897

```
              100                   105                   110
Glu Tyr Ile His Asn Phe Lys Leu Leu Gln Ala Ser Phe Lys Arg Met
         115                   120                   125
Asn Val Asp Lys Val Ile Pro Val Glu Lys Leu Val Lys Gly Arg Phe
      130                   135                   140
Gln Asp Asn Leu Asp Phe Ile Gln Trp Phe Lys Lys Phe Tyr Asp Ala
145                   150                   155                   160
Asn Tyr Asp Gly Lys Glu Tyr Asp Pro Val Glu Ala Arg Gln Gly Gln
                  165                   170                   175
Asp Ala Ile Pro Pro Pro Asp Pro Gly Glu Gln Ile Phe Asn Leu Pro
             180                   185                   190
Lys Lys Ser His His Ala Asn Ser Pro Thr Ala Gly Ala Ala Lys Ser
             195                   200                   205
Ser Pro Ala Ala Lys Pro Gly Ser Thr Pro Ser Arg Pro Ser Ser Ala
      210                   215                   220
Lys Arg Ala Ser Ser Ser Gly Ser Ala Ser Lys Ser Asp Lys Asp Leu
225                   230                   235                   240
Glu Thr Gln Val Ile Gln Leu Asn Glu Gln Val His Ser Leu Lys Leu
                  245                   250                   255
Ala Leu Glu Gly Val Glu Lys Glu Arg Asp Phe Tyr Phe Gly Lys Leu
                  260                   265                   270
Arg Glu Ile Glu Leu Leu Cys Gln Glu His Gly Gln Glu Asn Asp Asp
             275                   280                   285
Leu Val Gln Arg Leu Met Asp Ile Leu Tyr Ala Ser Glu Glu His Glu
      290                   295                   300
Gly His Thr Glu Glu Pro Glu Ala Glu Glu Gln Ala His Glu Gln Gln
305                   310                   315                   320
Pro Pro Gln Gln Glu Glu Tyr
                  325
```

```
<210> 5737
<211> 340
<212> DNA
<213> Homo sapiens

<400> 5737
ncacccccc tggatgtggc tcttcggata tgcctttccc acggagccca gagacaaatg
60
tgcgtggccc tgggacagct ggaccggcct ccagacctcg cccatgacgg gaggagtctg
120
tggctgaaca tcaggggcaa ggaggcggct gcccaatcca tgttccatgt ctccacgcca
180
ctgccagtga tgaccggtgg tttcctgatg tacctgagag ggcagctgga gcctcagtgg
240
aagatgttgc agtgccatcc tcacctggtg gcttgaaatc ggccaaggtg ggagcattta
300
caccgcagaa atgacaccgc acgccagcgc cccgcggccg
340


<210> 5738
<211> 99
<212> PRT
<213> Homo sapiens
```

```
<400> 5738
Met Leu Pro Pro Trp Pro Ile Ser Ser His Gln Val Arg Met Ala Leu
 1               5                   10                  15
Gln His Leu Pro Leu Arg Leu Gln Leu Pro Ser Gln Val His Gln Glu
            20                  25                  30
Thr Thr Gly His His Trp Gln Trp Arg Gly Asp Met Glu His Gly Leu
        35                  40                  45
Gly Ser Arg Leu Leu Ala Pro Asp Val Gln Pro Gln Thr Pro Pro Val
    50                  55                  60
Met Gly Glu Val Trp Arg Pro Val Gln Leu Ser Gln Gly His Ala His
65                  70                  75                  80
Leu Ser Leu Gly Ser Val Gly Lys Ala Tyr Pro Lys Ser His Ile Gln
                85                  90                  95
Gly Gly Xaa


<210> 5739
<211> 780
<212> DNA
<213> Homo sapiens

<400> 5739
actttcataa ttgtaacatt gaaatcttta atctggaata tgtactggca taaagagtga
60
ggcacataca tggctttact attttccaga gggccaactg cttttactga ataatccatt
120
ttactcgtta attggaaaca cctctagcct gtactaaatt tccatattta tttggcccgt
180
ttcaaagtcc tctattctct gctcatctgt ccacatctaa gtgctttaac tattgtggct
240
ttataaaata ttccaatatc ccataggacc ttatccttag tacttcctat tttaaagttt
300
tccttgcaga caggtacttt aaataccatc tcacagcacc catcatgtcc tatcttcagg
360
aaataaaatc tctgggtatt tccaagggaa gtgaaggact gacaccatga ttagaaagca
420
gagccagcac catggcccgt ccctgagcat gtccagcaaa ccctgccagg ctctgcagct
480
cctgagcacc ctgccttcgg gtctgccagt gtgtgggggc cagaagagaa aaacaaccca
540
gggggaatgc ctccttcccc cagcaggaaa gcagcttggt catcatctgt ctgaaagcag
600
gtgctgcagc agctggcaac aaagccactc tgaaaggagc tgtgtgcact gcctgtctgg
660
aaggccatgc cagagtccat cgttgcctcc accctacctg tgcaggaaac ctggacatca
720
ccacttcaag gccctacctt cctttctggg cagagcccaa ccacaataaa caggacgcgt
780


<210> 5740
<211> 120
<212> PRT
<213> Homo sapiens
```

<400> 5740
Met Ile Arg Lys Gln Ser Gln His His Gly Pro Ser Leu Ser Met Ser
1   5   10   15
Ser Lys Pro Cys Gln Ala Leu Gln Leu Leu Ser Thr Leu Pro Ser Gly
            20   25   30
Leu Pro Val Cys Gly Gly Gln Lys Arg Lys Thr Thr Gln Gly Glu Cys
        35   40   45
Leu Leu Pro Pro Ala Gly Lys Gln Leu Gly His His Leu Ser Glu Ser
    50   55   60
Arg Cys Cys Ser Ser Trp Gln Gln Ser His Ser Glu Arg Ser Cys Val
65   70   75   80
His Cys Leu Ser Gly Arg Pro Cys Gln Ser Pro Ser Leu Pro Pro Pro
                85   90   95
Tyr Leu Cys Arg Lys Pro Gly His His His Phe Lys Ala Leu Pro Ser
            100   105   110
Phe Leu Gly Arg Ala Gln Pro Gln
        115   120

<210> 5741
<211> 2444
<212> DNA
<213> Homo sapiens

<400> 5741
ggcggctgct gctccgggcc tgggcacagc aagcggcgac gtcaagctcc cggggttggc
60
gcggttggcg ggggcagtcc cgagcgtgag gaggtcggcg caggctacaa cagtgaggac
120
gagtatgagg cggctgcagc acgcatcgag gctatggacc ctgccactgt cgagcagcag
180
gagcattggt ttgaaaaggc cctacgagac aagaagggct tcatcatcaa gcagatgaag
240
gaggatggcg cctgtctctt ccgggctgta gctgaccagg tgtatggaga ccaggacatg
300
catgaggttg tgcgaaagca ttgcatggac tatctgatga gaatgccga ctacttctcc
360
aactatgtca cagaggactt taccacctac attaacagga gcggaaaaa caattgccat
420
ggcaaccaca ttgagatgca ggccatggca gagatgtaca accgtcctgt ggaggtgtac
480
cagtacagca cagaacccat caacacattc catgggatac atcaaaacga ggacgaaccc
540
attcgtgtta gctaccatcg gaatatccac tataattcag tggtgaatcc taacaaggcc
600
accattggtg tggggctggg cctgccatca ttcaaaccag ggtttgcaga gcagtctctg
660
atgaagaatg ccataaaaac atcggaggag tcatggattg aacagcagat gctagaagac
720
aagaaacggg ccacagactg ggaggccaca aatgaagcca tcgaggagca ggtggctcgg
780
gaatcctacc tgcagtggtt gcgggatcag gagaaacagg ctcgccaggt ccgaggcccc
840
agccagcccc ggaaagccag cgccacatgc agttcggcca cagcagcagc ctccagtggc
900

```
ctggaggagt ggactagccg gtccccgcgg cagcggagtt cagcctcgtc acctgagcac
960
cctgagctgc atgctgaatt gggcatgaag cccccttccc caggcactgt tttagctctt
1020
gccaaacctc cttcgccctg tgcgccaggt acaagcagtc agttctcggc aggggccgac
1080
cgggcaactt cccccttgt gtccctctac cctgctttgg agtgccgggc cctcattcag
1140
cagatgtccc cctctgcctt tggtctgaat gactgggatg atgatgagat cctagcttcg
1200
gtgctggcag tgtcccaaca ggaataccta gacagtatga agaaaaacaa agtgcacaga
1260
gacccgcccc cagacaagag ttgatggaga cccagggatt ggacaccatc tcccaacccc
1320
agtactcctg ctctccggtg ccacctcacc ttctttggct tcttccctct tgcctccttc
1380
tgttctttct gctctcccct cttttccctc ctcctcactt ccctctggct agcccacccc
1440
tgcactctct ctcattgccg ctgccactat cacctgtctc tctgccagct gatgtgccct
1500
gttgccccccc accccatccc gcacagaacc atccctgcat tccacagggg actcgggcaa
1560
gggtgccgaa gatagacaag aggcacacag agacagacca actggcagcc aggcagcccc
1620
agaggagaga gacattcaga cagaggaaag tctccctgcc cctcattcct tccaagatga
1680
gaaaaacttg ccgccacccc ccgacactga tgccagggag gtgggaggaa gaagtgggaa
1740
atttcccttc ccagtacccc caagaacgtc tgagccttca atgttgaatt ttttctttat
1800
taaaattact tttatcttat aaaatcaact aatcaaaaat gatatagacg acagcactgg
1860
ctctgtgaag gtggcatctt tctgggcagg caggccatgg ggcatggagg agggtgcaaa
1920
gatatgggtt gctgtcttct ggcctccagc tgcatggagg ccggcccagg gtctagggtg
1980
tgcactgggc aagggcaggg cggcaggtgt caggccggct tggacaatga aaccctgacc
2040
ttgctgcatt ccttttgctt ccaccaccac tagcttcttt ggaatcttgg ggtgggggtc
2100
atctttgggg attatggctg ccacccggga tttgagtgta gggagtgtgg gagcagcctt
2160
ggcagatggg gcacccgtgc cctgcaggtg ttgacaagat ccgccatctg taatgtcctt
2220
ggcacaataa aaccaaatgt cagtttccct gagcgactct gttctgtgtg gggcaggggt
2280
tgggcgggcc tctgggcaga ggatgcaatg gcacggacct tggcttgacc tcagaggtgt
2340
gaatgctctc cagcagggtc tgtctggggg cctggagttt gtatttgatt tgctgcttat
2400
taaacctcct tctggaccta ttgccactgg aaaaaaaaaa aaaa
2444
```

<210> 5742

<211> 427
<212> PRT
<213> Homo sapiens

<400> 5742
Gly Gly Cys Cys Ser Gly Pro Gly His Ser Lys Arg Arg Arg Gln Ala
1   5   10   15
Pro Gly Val Gly Ala Val Gly Gly Gly Ser Pro Glu Arg Glu Glu Val
            20   25   30
Gly Ala Gly Tyr Asn Ser Glu Asp Glu Tyr Glu Ala Ala Ala Ala Arg
            35   40   45
Ile Glu Ala Met Asp Pro Ala Thr Val Glu Gln Gln Glu His Trp Phe
    50   55   60
Glu Lys Ala Leu Arg Asp Lys Lys Gly Phe Ile Ile Lys Gln Met Lys
65   70   75   80
Glu Asp Gly Ala Cys Leu Phe Arg Ala Val Ala Asp Gln Val Tyr Gly
                85   90   95
Asp Gln Asp Met His Glu Val Val Arg Lys His Cys Met Asp Tyr Leu
            100   105   110
Met Lys Asn Ala Asp Tyr Phe Ser Asn Tyr Val Thr Glu Asp Phe Thr
            115   120   125
Thr Tyr Ile Asn Arg Lys Arg Lys Asn Asn Cys His Gly Asn His Ile
    130   135   140
Glu Met Gln Ala Met Ala Glu Met Tyr Asn Arg Pro Val Glu Val Tyr
145   150   155   160
Gln Tyr Ser Thr Glu Pro Ile Asn Thr Phe His Gly Ile His Gln Asn
                165   170   175
Glu Asp Glu Pro Ile Arg Val Ser Tyr His Arg Asn Ile His Tyr Asn
            180   185   190
Ser Val Val Asn Pro Asn Lys Ala Thr Ile Gly Val Gly Leu Gly Leu
            195   200   205
Pro Ser Phe Lys Pro Gly Phe Ala Glu Gln Ser Leu Met Lys Asn Ala
    210   215   220
Ile Lys Thr Ser Glu Glu Ser Trp Ile Glu Gln Gln Met Leu Glu Asp
225   230   235   240
Lys Lys Arg Ala Thr Asp Trp Glu Ala Thr Asn Glu Ala Ile Glu Glu
                245   250   255
Gln Val Ala Arg Glu Ser Tyr Leu Gln Trp Leu Arg Asp Gln Glu Lys
                260   265   270
Gln Ala Arg Gln Val Arg Gly Pro Ser Gln Pro Arg Lys Ala Ser Ala
            275   280   285
Thr Cys Ser Ser Ala Thr Ala Ala Ala Ser Ser Gly Leu Glu Glu Trp
    290   295   300
Thr Ser Arg Ser Pro Arg Gln Arg Ser Ser Ala Ser Ser Pro Glu His
305   310   315   320
Pro Glu Leu His Ala Glu Leu Gly Met Lys Pro Pro Ser Pro Gly Thr
                325   330   335
Val Leu Ala Leu Ala Lys Pro Pro Ser Pro Cys Ala Pro Gly Thr Ser
                340   345   350
Ser Gln Phe Ser Ala Gly Ala Asp Arg Ala Thr Ser Pro Leu Val Ser
            355   360   365
Leu Tyr Pro Ala Leu Glu Cys Arg Ala Leu Ile Gln Gln Met Ser Pro
    370   375   380
Ser Ala Phe Gly Leu Asn Asp Trp Asp Asp Asp Glu Ile Leu Ala Ser

4902

```
385                    390                    395                    400
Val Leu Ala Val Ser Gln Gln Glu Tyr Leu Asp Ser Met Lys Lys Asn
                   405                    410                    415
Lys Val His Arg Asp Pro Pro Pro Asp Lys Ser
               420                    425
```

```
<210> 5743
<211> 550
<212> DNA
<213> Homo sapiens

<400> 5743
nngcgccaga ctcatttgcc ccgcaggtag atcttggggg tctgccagcc cttcgggggc
60
ttcctttagc cccgccttca gccagatgcg cctcaggtct ttctcgaact tgatctgctt
120
gcgtctcagg cgtccctcct ggaccttccc ctatctggct gggcggacac tggtaggatt
180
gcggtggagc cacatgtcct gcggtcccgg tatccagtct gggcaggaag cagcgggccg
240
tgagccagct ctccaggggg ctgacggaca tcttcctggg gaccagcatc tcctccagct
300
ccagctgggc cccttgcga gggagagagg ccgccctacc tgggccggcc ggcgatgtgc
360
tgtaaagggg cccgcagacc cggctgccca actccagaga cgggccaagg cgggcggccg
420
ccgaaaggtc ccagaacggg gaggccggcc ccctccccgg gttcaccccc gcgcgaatcg
480
cgttgcctgg cgcccnngga ccctctcggc tggaccccgg gcccgcctgc cgcagcgccc
540
ggcgccctca
550
```

```
<210> 5744
<211> 95
<212> PRT
<213> Homo sapiens

<400> 5744
Arg Thr Ser Ser Trp Gly Pro Ala Ser Pro Pro Ala Pro Ala Gly Pro
 1               5                   10                  15
Pro Cys Glu Gly Glu Arg Pro Pro Tyr Leu Gly Arg Pro Ala Met Cys
                20                  25                  30
Cys Lys Gly Ala Arg Arg Pro Gly Cys Pro Thr Pro Glu Thr Gly Gln
            35                  40                  45
Gly Gly Arg Pro Pro Lys Gly Pro Arg Thr Gly Arg Pro Ala Pro Ser
        50                  55                  60
Pro Gly Ser Pro Pro Arg Glu Ser Arg Cys Leu Ala Pro Xaa Asp Pro
65                  70                  75                  80
Leu Gly Trp Thr Pro Gly Pro Pro Ala Ala Ala Pro Gly Ala Leu
                85                  90                  95
```

```
<210> 5745
<211> 849
```

<212> DNA
<213> Homo sapiens

<400> 5745
aaagtttttt tttttttctg cttcaggcac acggggaacc acgcgtttta atcaacgtat
60
cgataaaaaa caccagggca cggacactcc aggggaaatg cttattgagt aaagtatccg
120
aggaagtgat gcagggcagg taaacagctg gtgctcagca gcgagaggac gcgtcactct
180
gccgttctgc agggtgacgc cctccccgta cctcgctgag agccacctgc agacacagca
240
ggccacagca gaatgcacag gtcactgttg taggggaaca aatcgtaatg cccagagaaa
300
acctgatagt gaaatgtaaa cagacaggac agggtggttc caggtggcca ccaccgccag
360
gcccttcccg tgattgatct gagagcttca cagccggcgg cactgggacc catttccaga
420
aacactggaa caccaggtct ctcagatgcc cgcgggaggg gccccaggga ggcctttctc
480
agcatcagct tttgggtgac aaaccccata cagcaaaact gtacaaatac acacaacgga
540
cccccagctg acagtgagac caggacccta ggaaggtcag gtggtggtga agtcatcccc
600
tctccaaccg agcagagcct ggggttgggc tctgatgacc tcccgggcaa agtgtccagg
660
tggaggaagc aaactcccaa atggggcaca aaggtaataa aaagcagctg agagattgcg
720
ggatggggtc ggggccactt ggccgacacc ttctgcctcg cctggccggg ccgggccagc
780
ctctcgccac aggatggagg gtgactgtgc accctgctcc atgtacagga cgggttgagg
840
gtcccatgg
849

<210> 5746
<211> 140
<212> PRT
<213> Homo sapiens

<400> 5746
Met Thr Ser Pro Pro Pro Asp Leu Pro Arg Val Leu Val Ser Leu Ser
1   5   10   15
Ala Gly Gly Pro Leu Cys Val Phe Val Gln Phe Cys Cys Met Gly Phe
                20   25   30
Val Thr Gln Lys Leu Met Leu Arg Lys Ala Ser Leu Gly Pro Leu Pro
            35   40   45
Arg Ala Ser Glu Arg Pro Gly Val Pro Val Phe Leu Glu Met Gly Pro
        50   55   60
Ser Ala Ala Gly Cys Glu Ala Leu Arg Ser Ile Thr Gly Arg Ala Trp
65   70   75   80
Arg Trp Trp Pro Pro Gly Thr Thr Leu Ser Cys Leu Phe Thr Phe His
                85   90   95
Tyr Gln Val Phe Ser Gly His Tyr Asp Leu Phe Pro Tyr Asn Ser Asp

4904

```
            100                 105                 110
   Leu Cys Ile Leu Leu Trp Pro Ala Val Ser Ala Gly Gly Ser Gln Arg
           115                 120                 125
   Gly Thr Gly Arg Ala Ser Pro Cys Arg Thr Ala Glu
        130                 135                 140
```

<210> 5747
<211> 1999
<212> DNA
<213> Homo sapiens

<400> 5747
nccatggccc agtccggcgg ggaggctcgg cccgggccca agacggcggt gcagatccgc
60
gtcgccatcc aggaggccga ggacgtggac gagttggagg acgaggagga gggggcggag
120
actcggggcg ccggggaccc ggcccggtac ctcagccccg gctggggcag cgcgagcgag
180
gaggagccga gccgcgggca cagtggcacc actgcaagtg gaggtgagaa cgagcgtgag
240
gacctggagc aggagtggaa gcccccggat gaggagttga tcaagaaact ggtggatcag
300
atcgaattct acttttctga tgaaaacctg gagaaggacg ccttttttgct aaaacacgtg
360
aggaggaaca agctgggata tgtgagcgtt aagctactca catccttcaa aaaggtgaaa
420
catcttacac gggactggag aaccacagca catgctttga agtattcagt ggtccttgag
480
ttgaatgagg accaccggaa ggtgaggagg accaccccg tcccactgtt ccccaacgag
540
aacctcccca gcaagatgct cctggtctat gatctctact tgtctcctaa gctgtgggct
600
ctggccaccc cccagaagaa tggaagggtg caagagaagg tgatggaaca cctgctcaag
660
cttttcggga cttttggagt catctcatca gtgcggatcc tcaaacctgg gagagagctg
720
cccccctgaca tccggaggat cagcagccgc tacagccaag tggggaccca ggagtgtgcc
780
atcgtggagt tcgaggaggt ggaagcagcc atcaaagccc atgagttcat gatcacagaa
840
tctcagggca aagagaacat gaaagctgtc ctgattggta tgaagccacc caaaaagaaa
900
cctgccaaag acaaaaatca tgacgaggag cccactgcga gcatccacct gaacaagtcc
960
ctgaacaaga gagtcgagga gcttcagtac atgggtgatg agtcttctgc caacagctcc
1020
tctgaccccg agagcaaccc cacatcccct atggcgggcc gacggcacgc ggccaccaac
1080
aagctcagcc cgtctggcca ccagaatctc tttctgagtc caaatgcctc cccgtgcaca
1140
agtccttgga gcagcccctt ggcccaacgc aaaggcgttt ccagaaagtc cccactggcg
1200
gaggaaggta gactgaactg cagcaccagc cctgagatct tccgcaagtg tatggattat
1260
```

```
tcctctgaca gcagcgtcac tccctctggc agcccctggg tccggaggcg tcgccaagcc
1320
gagatgggga cccaggagaa aagccccggt acgagtcccc tgctctcccg gaagatgcag
1380
actgcagatg ggctacccgt aggggtgctg aggttgccca ggggtcctga caacaccaga
1440
ggatttcatg gccatgagag gagcagggcc tgtgtataaa taccttctat ttttaataca
1500
agctccactg aaaaccacct tcgttttcaa ggttctgaca aacacctggc atgacagaat
1560
ggaattcgtt cccctttgag agatttttta ttcatgtaga cctcttaatt tatctatctg
1620
taatatacat aaatcggtac gccatggttt gaagaccacc ttctagttca ggactcctgt
1680
tcttcccagc atggccacta ttttgatgat ggctgatgtg tgtgagtgtg atggccctga
1740
agggctgtag gacggaggtt ccctggggga agtctgttct ttggtatgga atttttctct
1800
cttctttggt atggaatttt tcccttcagt gactgagctg tcctcgatag gccatgcaag
1860
ggcttcctga gagttcagga aagttctctt gtgcaacagc aagtagctaa gcctatagca
1920
tggtgtcttg taggaccaaa tcgatgttac ctgtcaagta aataaataat aaaacaccca
1980
aaaaaaaaaa aaaaaaaaa
1999


<210> 5748
<211> 492
<212> PRT
<213> Homo sapiens

<400> 5748
Xaa Met Ala Gln Ser Gly Gly Glu Ala Arg Pro Gly Pro Lys Thr Ala
  1               5                  10                  15
Val Gln Ile Arg Val Ala Ile Gln Glu Ala Glu Asp Val Asp Glu Leu
            20                  25                  30
Glu Asp Glu Glu Glu Gly Ala Glu Thr Arg Gly Ala Gly Asp Pro Ala
        35                  40                  45
Arg Tyr Leu Ser Pro Gly Trp Gly Ser Ala Ser Glu Glu Glu Pro Ser
    50                  55                  60
Arg Gly His Ser Gly Thr Thr Ala Ser Gly Gly Glu Asn Glu Arg Glu
65                  70                  75                  80
Asp Leu Glu Gln Glu Trp Lys Pro Pro Asp Glu Glu Leu Ile Lys Lys
                85                  90                  95
Leu Val Asp Gln Ile Glu Phe Tyr Phe Ser Asp Glu Asn Leu Glu Lys
                100                 105                 110
Asp Ala Phe Leu Leu Lys His Val Arg Arg Asn Lys Leu Gly Tyr Val
            115                 120                 125
Ser Val Lys Leu Leu Thr Ser Phe Lys Lys Val Lys His Leu Thr Arg
        130                 135                 140
Asp Trp Arg Thr Thr Ala His Ala Leu Lys Tyr Ser Val Val Leu Glu
145                 150                 155                 160
Leu Asn Glu Asp His Arg Lys Val Arg Arg Thr Thr Pro Val Pro Leu
```

4906

```
                   165                    170                    175
Phe Pro Asn Glu Asn Leu Pro Ser Lys Met Leu Leu Val Tyr Asp Leu
            180                    185                    190
Tyr Leu Ser Pro Lys Leu Trp Ala Leu Ala Thr Pro Gln Lys Asn Gly
            195                    200                    205
Arg Val Gln Glu Lys Val Met Glu His Leu Leu Lys Leu Phe Gly Thr
        210                    215                    220
Phe Gly Val Ile Ser Ser Val Arg Ile Leu Lys Pro Gly Arg Glu Leu
225                    230                    235                    240
Pro Pro Asp Ile Arg Arg Ile Ser Ser Arg Tyr Ser Gln Val Gly Thr
                245                    250                    255
Gln Glu Cys Ala Ile Val Glu Phe Glu Glu Val Glu Ala Ala Ile Lys
            260                    265                    270
Ala His Glu Phe Met Ile Thr Glu Ser Gln Gly Lys Glu Asn Met Lys
        275                    280                    285
Ala Val Leu Ile Gly Met Lys Pro Pro Lys Lys Lys Pro Ala Lys Asp
    290                    295                    300
Lys Asn His Asp Glu Glu Pro Thr Ala Ser Ile His Leu Asn Lys Ser
305                    310                    315                    320
Leu Asn Lys Arg Val Glu Glu Leu Gln Tyr Met Gly Asp Glu Ser Ser
                325                    330                    335
Ala Asn Ser Ser Ser Asp Pro Glu Ser Asn Pro Thr Ser Pro Met Ala
            340                    345                    350
Gly Arg Arg His Ala Ala Thr Asn Lys Leu Ser Pro Ser Gly His Gln
        355                    360                    365
Asn Leu Phe Leu Ser Pro Asn Ala Ser Pro Cys Thr Ser Pro Trp Ser
    370                    375                    380
Ser Pro Leu Ala Gln Arg Lys Gly Val Ser Arg Lys Ser Pro Leu Ala
385                    390                    395                    400
Glu Glu Gly Arg Leu Asn Cys Ser Thr Ser Pro Glu Ile Phe Arg Lys
                405                    410                    415
Cys Met Asp Tyr Ser Ser Asp Ser Ser Val Thr Pro Ser Gly Ser Pro
            420                    425                    430
Trp Val Arg Arg Arg Arg Gln Ala Glu Met Gly Thr Gln Glu Lys Ser
        435                    440                    445
Pro Gly Thr Ser Pro Leu Leu Ser Arg Lys Met Gln Thr Ala Asp Gly
    450                    455                    460
Leu Pro Val Gly Val Leu Arg Leu Pro Arg Gly Pro Asp Asn Thr Arg
465                    470                    475                    480
Gly Phe His Gly His Glu Arg Ser Arg Ala Cys Val
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<210> 5749
<211> 2849
<212> DNA
<213> Homo sapiens

<400> 5749
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120
gaaataaaac ccatttcaaa agttattgga aagaaagtaa ggtatggctc ttatgggtta
180

actagtggta gtcagtttct gctttttact ccctctgaat tattaattgt ttgccaggtt
240
cactggtggg aggctgagcc ggtggaaaag acaccgggaa gagactcaga ggcgaccata
300
atgtcgttac gtgtacacac tctgcccacc ctgcttggag ccgtcgtcag accgggctgc
360
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420
tgccccaccg cttgcatctg tgccactgac atcgtcagct gcaccaacaa aaacctgtcc
480
aaggtgcctg ggaacctttt cagactgatt aagagactgg acctgagtta taacagaatt
540
gggcttctgg attctgagtg gattccagta tcgtttgcaa agctgaacac cctaattctt
600
cgtcataaca acatcaccag catttccacg ggcagttttt ccacaactcc aaatttgaag
660
tgtcttgact tatcgtccaa taagctgaag acggtgaaaa atgctgtatt ccaagagttg
720
aaggttctgg aagtgcttct gctttacaac aatcacatat cctatctcga tccttcagcg
780
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840
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960
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1620
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1680
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1740
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1800

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1980
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2100
gcttttagca ctattggtaa tttcagagta ggcccaaagg tgatatgact cccattgtcc
2160
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2220
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2280
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2340
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2400
tgataaaatg tactggataa tgccacatcc tatatggtgt tatagaaata gtgcaaggaa
2460
agtacatttg tttgcctgtc ttttcatttt gtacattctt cccattctgt attcttgtac
2520
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2580
aataccaaaa tgtctgagta acttcttaaa tccctgttct agcaaactaa tattggttca
2640
tgtgcttgtg tatatgtaaa tcttaaatta tgtgaactat taaatagacc ctactgtact
2700
gtgctttgga catttgaatt aatgtaaata tatgtaatct gtgacttgat attttgtttt
2760
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2820
tataaagcac cactgatagc aaaaaaaaa
2849

<210> 5750
<211> 522
<212> PRT
<213> Homo sapiens

<400> 5750
Met Ser Leu Arg Val His Thr Leu Pro Thr Leu Leu Gly Ala Val Val
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Arg Pro Gly Cys Arg Glu Leu Leu Cys Leu Leu Met Ile Thr Val Thr
            20   25   30
Val Gly Pro Gly Ala Ser Gly Val Cys Pro Thr Ala Cys Ile Cys Ala
        35   40   45
Thr Asp Ile Val Ser Cys Thr Asn Lys Asn Leu Ser Lys Val Pro Gly
    50   55   60
Asn Leu Phe Arg Leu Ile Lys Arg Leu Asp Leu Ser Tyr Asn Arg Ile
65   70   75   80
Gly Leu Leu Asp Ser Glu Trp Ile Pro Val Ser Phe Ala Lys Leu Asn

4909

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                           85                    90                    95
Thr Leu Ile Leu Arg His Asn Asn Ile Thr Ser Ile Ser Thr Gly Ser
                100                   105                   110
Phe Ser Thr Thr Pro Asn Leu Lys Cys Leu Asp Leu Ser Ser Asn Lys
                115                   120                   125
Leu Lys Thr Val Lys Asn Ala Val Phe Gln Glu Leu Lys Val Leu Glu
          130                   135                   140
Val Leu Leu Leu Tyr Asn Asn His Ile Ser Tyr Leu Asp Pro Ser Ala
145                   150                   155                   160
Phe Gly Gly Leu Ser Gln Leu Gln Lys Leu Tyr Leu Ser Gly Asn Phe
                    165                   170                   175
Leu Thr Gln Phe Pro Met Asp Leu Tyr Val Gly Arg Phe Lys Leu Ala
                180                   185                   190
Glu Leu Met Phe Leu Asp Val Ser Tyr Asn Arg Ile Pro Ser Met Pro
          195                   200                   205
Met His His Ile Asn Leu Val Pro Gly Lys Gln Leu Arg Gly Ile Tyr
    210                   215                   220
Leu His Gly Asn Pro Phe Val Cys Asp Cys Ser Leu Tyr Ser Leu Leu
225                   230                   235                   240
Val Phe Trp Tyr Arg Arg His Phe Ser Ser Val Met Asp Phe Lys Asn
                245                   250                   255
Asp Tyr Thr Cys Arg Leu Trp Ser Asp Ser Arg His Ser Arg Gln Val
                260                   265                   270
Leu Leu Leu Gln Asp Ser Phe Met Asn Cys Ser Asp Ser Ile Ile Asn
          275                   280                   285
Gly Ser Phe Arg Ala Leu Gly Phe Ile His Glu Ala Gln Val Gly Glu
    290                   295                   300
Arg Leu Met Val His Cys Asp Ser Lys Thr Gly Asn Ala Asn Thr Asp
305                   310                   315                   320
Phe Ile Trp Val Gly Pro Asp Asn Arg Leu Leu Glu Pro Asp Lys Glu
                325                   330                   335
Met Glu Asn Phe Tyr Val Phe His Asn Gly Ser Leu Val Ile Glu Ser
                340                   345                   350
Pro Arg Phe Glu Asp Ala Gly Val Tyr Ser Cys Ile Ala Met Asn Lys
          355                   360                   365
Gln Arg Leu Leu Asn Glu Thr Val Asp Val Thr Ile Asn Val Ser Asn
    370                   375                   380
Phe Thr Val Ser Arg Ser His Ala His Glu Ala Phe Asn Thr Ala Phe
385                   390                   395                   400
Thr Thr Leu Ala Ala Cys Val Ala Ser Ile Val Leu Val Leu Leu Tyr
                405                   410                   415
Leu Tyr Leu Thr Pro Cys Pro Cys Lys Cys Lys Thr Lys Arg Gln Lys
          420                   425                   430
Asn Met Leu His Gln Ser Asn Ala His Ser Ser Ile Leu Ser Pro Gly
    435                   440                   445
Pro Ala Ser Asp Ala Ser Ala Asp Glu Arg Lys Ala Gly Ala Gly Lys
    450                   455                   460
Arg Val Val Phe Leu Glu Pro Leu Lys Asp Thr Ala Ala Gly Gln Asn
465                   470                   475                   480
Gly Lys Val Arg Leu Phe Pro Ser Glu Ala Val Ile Ala Glu Gly Ile
                485                   490                   495
Leu Lys Ser Thr Arg Gly Lys Ser Asp Ser Asp Ser Val Asn Ser Val
          500                   505                   510
Phe Ser Asp Thr Pro Phe Val Ala Ser Thr
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        515                    520

<210> 5751
<211> 926
<212> DNA
<213> Homo sapiens

<400> 5751
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120
gtgagggcta gctgagggct ctcctgccct tcgtgcattc gctggtcact aatcgggcac
180
cttgtgggtg ctgtgctccg catggggggac ccagtggtga cagagacgcc caccctcctg
240
gggctcccag agcagaggcg cgcagcagtt agacacgtga acaagggcgc aggcatcctg
300
gagatccgct ctgtacacgt gggcgtcgtg gtcatcaaag cagtgtcctc aggcttctac
360
gtggccatga accgccgggg ccgcctctac gggtcgcgac tctacaccgt ggactgcagg
420
ttccgggagc gcatcgaaga gaacggccac aacacctacg cctcacagcg ctggcgccgc
480
cgcggccagc ccatgttcct ggcgctggac aggaggggg ggccccggcc aggcggccgg
540
acgcggcggt accacctgtc cgcccacttc ctgcccgtcc tggtctcctg aggccctgag
600
aggccggcgg ctccccaagg tgcctgggct ggtggcgagg ggcccggcca cgcttgttct
660
tcccccctgcg ggctctgtaa gcgctgagtg cccaccgtgt gcgggcgctg tggacacagc
720
ccaggagccc tccagggggg tcccagcctg aggggggtggt ggccaccaag caggttcaat
780
cctgagttgg ggacctcgag gacccaacag ggcgcctctc gggctgaagg acgcagacgt
840
cgaaaggtcg aggggggacgt cccaggcagg gcccggcaga ggcaggggct cggggggggg
900
agcacgttgg gagtgggggc aggagc
926

<210> 5752
<211> 129
<212> PRT
<213> Homo sapiens

<400> 5752
Met Gly Asp Pro Val Val Thr Glu Thr Pro Thr Leu Leu Gly Leu Pro
1               5                   10                  15
Glu Gln Arg Arg Ala Ala Val Arg His Val Asn Lys Gly Ala Gly Ile
            20                  25                  30
Leu Glu Ile Arg Ser Val His Val Gly Val Val Val Ile Lys Ala Val
        35                  40                  45
Ser Ser Gly Phe Tyr Val Ala Met Asn Arg Arg Gly Arg Leu Tyr Gly
```

```
      50                    55                    60
Ser Arg Leu Tyr Thr Val Asp Cys Arg Phe Arg Glu Arg Ile Glu Glu
65                    70                    75                    80
Asn Gly His Asn Thr Tyr Ala Ser Gln Arg Trp Arg Arg Arg Gly Gln
                    85                    90                    95
Pro Met Phe Leu Ala Leu Asp Arg Arg Gly Gly Pro Arg Pro Gly Gly
               100                   105                   110
Arg Thr Arg Arg Tyr His Leu Ser Ala His Phe Leu Pro Val Leu Val
          115                   120                   125
Ser
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<210> 5753
<211> 5668
<212> DNA
<213> Homo sapiens

<400> 5753
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aaatgagcag aatgattttt tcccctctgt cactgtgctg gtccggggaa tgtctggaag
120
acttgcttgg gcacaacagc tttgtctttt acccagagga gcaaaagcaa atcagaagct
180
ttttgtacct gaacctcgcc cagttcctaa aatgacgttg gatttaaata ttctgtgaaa
240
catcggccat ttcctgaaga ggtggacaag attccttttg tgaaagcaga tctcagcatt
300
ccagatttgc atgaaatagt cactgaagaa ttagaagaga gacacgaaaa attaaggagt
360
ggcatggccc agcagattgc ttatgaaata caccttgagc aacagagtga ggaggaattg
420
cagaagagaa gttttcctga cccagttacg gattgcaagc ccccgcctcc tgcccaggaa
480
ttccaaacag cccgcctttt tctctcacac tttggatttt tgtccttaga agcactgaag
540
gaacctgcaa atagtcgtct acctcctcac cttattgcac ttgattccac gatacctgga
600
tttttgatg acattgggta tctggatctc ttgccatgtc gtcctttga cacagttttt
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720
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780
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960
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1020
gatagtgatt caaatatgga tcttatgcca ggaattctga aacagccatc cctgacactt
1080
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gagcttttcc ccaatcatac agacaatctt aattcctcac agaggctcag tcccagttcc
1140

agaatgagga agctgcctca gggtcgccct gttcctcccc ttggacctga gacaagagtt
1200

tctgtagtct gggtggaacg ctatgatgat atagaaaact ttcccctctc agagctgatg
1260

acagagatca gtactggtgt ggaaactact gcaaatagta gcacttcact gagatctaca
1320

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1380

ataaaaattc aaggagccac tggaaaattt aatatggtca tccctcttgt ggatgggatg
1440

attgtcagca ggcgagctct tggctttctg gtgaggcaga ctgtaattaa catttgtaga
1500

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1560

accgacattg tcaacaagta ccggaacaag cagctggagc cagagtttta tacttcactt
1620

ttccaggagg ttggactcaa gaactgcagt tcttagacca ctgaatttct aagactgttg
1680

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1740

aaaaacaaat cactcccaag agcttactgt ttaatcacca gaatagaaga aacacattat
1800

aacccatttg atagaagact ttgggctatc tagtgaaatg ggctcccaga cacaatcata
1860

ctcctgctga taatgatgat atacatttta gccataaact ttcttttaaa agtgacaatt
1920

ttagttaaac ataagccttt tgaggagaaa ggcttttatg catctcagtt aaacacgtgc
1980

attggtagta tcaacaaatt tgcaatatag aagttgaaga tagtttttta cctcactttt
2040

taggaggttg tattcaaaat taaaatctca gaatcttaca ggacatttaa agactcatgt
2100

tgatagcatg gaggagaagg aaagaagtca cagccttcta ctcagttgta ggtcttcttg
2160

tcatccagct gtcacactga caaaaagaaa agatgataca tgttttttgc tcagataaga
2220

agcctgacat taaaagatgt catatttttt tctccacatt tcaaaaagtt gtccttctca
2280

tcactgcaca gatctgtctg aaagcctcag tttctgagtg acccaggaac agatcagaaa
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2400

aagacagcag tgatacccca ctctctccat tattgtccag cggggtgaca taatgacagg
2460

ttaaatattt gtgattcatt gattaaatat tatttaaaga aatgtaaatt cacaataagg
2520

gttgaaaatt atttggtttc atccattgtc tcttatttca ggaccaagca gcaaactgca
2580

gtagtttgtg aaggattcta atatggggtt caggaatagc ctctcaacgc tactaattca
2640

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2880
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3960
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4320

4914

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5100
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5160
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5220
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5280
gtttgtatga atttcagtat gttgccaaga catgattttt tcttattgta ttttctgtaa
5340
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5400
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5668

<210> 5754
<211> 221
<212> PRT
<213> Homo sapiens

<400> 5754
Asp Ser Leu Glu Ser Asn Ile Ser Asp Gln Asp Ser Asp Ser Asn Met

4915

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Asp Leu Met Pro Gly Ile Leu Lys Gln Pro Ser Leu Thr Leu Glu Leu
            20                    25                   30
Phe Pro Asn His Thr Asp Asn Leu Asn Ser Ser Gln Arg Leu Ser Pro
        35                    40                   45
Ser Ser Arg Met Arg Lys Leu Pro Gln Gly Arg Pro Val Pro Pro Leu
    50                    55                   60
Gly Pro Glu Thr Arg Val Ser Val Val Trp Val Glu Arg Tyr Asp Asp
65                    70                   75                   80
Ile Glu Asn Phe Pro Leu Ser Glu Leu Met Thr Glu Ile Ser Thr Gly
                85                    90                   95
Val Glu Thr Thr Ala Asn Ser Ser Thr Ser Leu Arg Ser Thr Thr Leu
            100                   105                  110
Glu Lys Glu Val Pro Val Ile Phe Ile His Pro Leu Asn Thr Gly Leu
        115                   120                  125
Phe Arg Ile Lys Ile Gln Gly Ala Thr Gly Lys Phe Asn Met Val Ile
    130                   135                  140
Pro Leu Val Asp Gly Met Ile Val Ser Arg Arg Ala Leu Gly Phe Leu
145                   150                   155                  160
Val Arg Gln Thr Val Ile Asn Ile Cys Arg Arg Lys Arg Leu Glu Ser
                165                   170                  175
Asp Ser Tyr Ser Pro Pro His Val Arg Arg Lys Gln Lys Ile Thr Asp
            180                   185                  190
Ile Val Asn Lys Tyr Arg Asn Lys Gln Leu Glu Pro Glu Phe Tyr Thr
        195                   200                  205
Ser Leu Phe Gln Glu Val Gly Leu Lys Asn Cys Ser Ser
    210                   215                  220
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<210> 5755
<211> 1513
<212> DNA
<213> Homo sapiens

<400> 5755
nnacgcgtga aggggaacct gtactgcgag gtgtgccccg aggaccggcc cctcatcgtg
60
cagttctgtg ccaatgaccc ggaggtgttt gttcaggcgg ctctcctggc tcaggattac
120
tgtgacgcca ttgacctgaa cttgggctgc ccacagatga tagccaagag aggtcactat
180
ggcgccttc tgcaggacga gtgggacctg ctccaaagaa tgattttgct ggcccacgag
240
aaactctctg ttcctgtcac gtgcaaaatc cgtgtcttcc cggagattga caagaccgtg
300
aggtacgccc agatgctgga gaaggccggc tgccagttgc tgacggtgca cggacgcacc
360
aaggagcaga aggggcccct gtcgggtgca gcgtcctggg agcatatcaa ggctgtgcgg
420
aaggctgtgg ccatccctgt gtttgctaac gggaacatcc agtgcctgca ggacgtggag
480
cgctgcctcc gggacacggg tgtgcagggc gtcatgagcg cagagggcaa cctgcacaac
540
cccgccctgt tcgagggccg gagccctgcc gtgtgggagc tggccgagga gtatctggac
600
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atcgtgcggg agcacccctg cccccctgtcc tacgtccggg cccacctctt caagctgtgg
660
caccacacgc tgcaggtgca ccaggagctg cgagaggagc tggccaaggt gaagaccctg
720
gagggcatcg ctgctgtgag ccaggagctg aagctgcggt gtcaggagga gatatccagg
780
caggagggag cgaagcccac cggcgacttg cccttccact ggatctgcca gccctacatc
840
cggccggggc ccagggaggg gagcaaggag aaggcaggtg cgcgcagcaa gcgggccctg
900
gaggaagagg agggtggcac ggaggtcctg tccaagaaca agcaaaagaa gcagctgagg
960
aaccccaca agaccttcga cccctctctg aagccaaaat atgcaaagtg tgaccagtgt
1020
ggaaacccaa agggcaacag atgtgtgttc agcctgtgcc gcggctgctg caagaagcga
1080
gcctccaaag agactgcaga ctgcccaggt cacggattgc tttttaaaac caaattggag
1140
aagtctctgg cctggaaaga ggcccagcct gagctgcagg agcctcagcc agcagcacct
1200
ggaacaccag gtggcttctc cgaagtcatg ggcagtgccc tggcctgaag gcccacaacc
1260
cccacccca ggactgctgc tggagcctgg acacgtccta cttaagaaaa tgccttttac
1320
tcagggaatc tcctgctact taatgtggaa agacacgccc atgtcccct tcggcccact
1380
ctgggggcct ggaaatgctg cagtggggag caggccccag gctggacctg ccctgtcctc
1440
agcacgcgtg tgcaaaagtg aacaataaat catttcaaag atgaaaaaaa aaaaaaaaaa
1500
aaaaagtcga cgc
1513
```

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<210> 5756
<211> 415
<212> PRT
<213> Homo sapiens

<400> 5756
Xaa Arg Val Lys Gly Asn Leu Tyr Cys Glu Val Cys Pro Glu Asp Arg
1               5                   10                  15
Pro Leu Ile Val Gln Phe Cys Ala Asn Asp Pro Glu Val Phe Val Gln
                20                  25                  30
Ala Ala Leu Leu Ala Gln Asp Tyr Cys Asp Ala Ile Asp Leu Asn Leu
            35                  40                  45
Gly Cys Pro Gln Met Ile Ala Lys Arg Gly His Tyr Gly Ala Phe Leu
        50                  55                  60
Gln Asp Glu Trp Asp Leu Leu Gln Arg Met Ile Leu Leu Ala His Glu
65                  70                  75                  80
Lys Leu Ser Val Pro Val Thr Cys Lys Ile Arg Val Phe Pro Glu Ile
                85                  90                  95
Asp Lys Thr Val Arg Tyr Ala Gln Met Leu Glu Lys Ala Gly Cys Gln
                100                 105                 110
Leu Leu Thr Val His Gly Arg Thr Lys Glu Gln Lys Gly Pro Leu Ser
```

4917

```
              115                    120                    125
Gly Ala Ala Ser Trp Glu His Ile Lys Ala Val Arg Lys Ala Val Ala
         130                    135                    140
Ile Pro Val Phe Ala Asn Gly Asn Ile Gln Cys Leu Gln Asp Val Glu
145                    150                    155                    160
Arg Cys Leu Arg Asp Thr Gly Val Gln Gly Val Met Ser Ala Glu Gly
                   165                    170                    175
Asn Leu His Asn Pro Ala Leu Phe Glu Gly Arg Ser Pro Ala Val Trp
              180                    185                    190
Glu Leu Ala Glu Glu Tyr Leu Asp Ile Val Arg Glu His Pro Cys Pro
         195                    200                    205
Leu Ser Tyr Val Arg Ala His Leu Phe Lys Leu Trp His His Thr Leu
    210                    215                    220
Gln Val His Gln Glu Leu Arg Glu Glu Leu Ala Lys Val Lys Thr Leu
225                    230                    235                    240
Glu Gly Ile Ala Ala Val Ser Gln Glu Leu Lys Leu Arg Cys Gln Glu
                   245                    250                    255
Glu Ile Ser Arg Gln Glu Gly Ala Lys Pro Thr Gly Asp Leu Pro Phe
              260                    265                    270
His Trp Ile Cys Gln Pro Tyr Ile Arg Pro Gly Pro Arg Glu Gly Ser
         275                    280                    285
Lys Glu Lys Ala Gly Ala Arg Ser Lys Arg Ala Leu Glu Glu Glu Glu
    290                    295                    300
Gly Gly Thr Glu Val Leu Ser Lys Asn Lys Gln Lys Lys Gln Leu Arg
305                    310                    315                    320
Asn Pro His Lys Thr Phe Asp Pro Ser Leu Lys Pro Lys Tyr Ala Lys
                   325                    330                    335
Cys Asp Gln Cys Gly Asn Pro Lys Gly Asn Arg Cys Val Phe Ser Leu
              340                    345                    350
Cys Arg Gly Cys Cys Lys Lys Arg Ala Ser Lys Glu Thr Ala Asp Cys
         355                    360                    365
Pro Gly His Gly Leu Leu Phe Lys Thr Lys Leu Glu Lys Ser Leu Ala
    370                    375                    380
Trp Lys Glu Ala Gln Pro Glu Leu Gln Glu Pro Gln Pro Ala Ala Pro
385                    390                    395                    400
Gly Thr Pro Gly Gly Phe Ser Glu Val Met Gly Ser Ala Leu Ala
              405                    410                    415
```

<210> 5757
<211> 2362
<212> DNA
<213> Homo sapiens

<400> 5757

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cagatcacca gcgtttgtag acagtagtgt ggcgcttgga gtttacctga gggccagtgg
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agctccaggg acctatcagg acggggacct gtggggactg ggaaggcctg tggggctgcg
120
tggagcccgg tactggaggc cgacgggggt gacggggacg ctgaggacac agagcggagg
180
ggcatgatgg ctgctgggcg tggaggtgtc gagagtgact gtgctggggc tgctccatcg
240
ttgtctgagc ctcccggtgc tgccgctgtg gccgtttctt tgatgaggct ctcagaggcc
300
```

```
gagtcattca ctgccagcct gaagctgccc atgcgcatat tcgggctgga gcctctgagg
360
ccacacaaac gccggctggg gaggcgaagt gtggggctga gcaccagaac tccaggagcg
420
tctgggctgg agacagaact gggtgggcag gtggggaggg cctgcagatc tgagtgggca
480
gccgaggagg aacccagaag acgccagcga tggagctctg ccggggcgga atgtggccag
540
gaggggcggg agcagtgacg gcctgtccgg cgctagaact agggaccgtg ctctcaggac
600
ctctggatgt tcccgagtat cctgatgttc cacccagaag ccgccagggc catcctggag
660
taccgcatcc gcacgctgga cggggccctg gagaacgccc agaacctggg ctaccaggga
720
gccaagtttg cctgggagag tgcagactcc ggcctagagg tttgccctga ggacatttac
780
ggagtccagg aggtccacgt caacggggcc gtggtgttgg ccttcgagct gtactaccat
840
accacccagg acctgcagct atttcgagag ggtggtgggt gggaggtggt tagggctgtg
900
gcgaagtttt ggtgcagtcg tgttgagtgg agccccaggg aggaaaagta ccacctgagg
960
ggagtcatgt cccccgacga gtaccattca ggggtcaaca actctgtgta caccaacgtc
1020
ctggtccaga acagcctgcg ctttgctgct gccctggccc aggacctggg tcttcccatc
1080
cccagccagt ggctggcggt ggctgacaag atcaaggtac cctttgacgt ggagcagaac
1140
ttccacccgg agttcgatgg gtatgagcct ggagaggtgg tgaagcaggc agacgtcgtg
1200
ctcctgggat acccagtccc cttctccctg agtcctgatg ttcgcaggaa aaatctggag
1260
atttacgagg ctgtgacgtc cccccagggc cccgccatga cctggagcat gtttgctgtg
1320
ggctggatgg agctgaagga cgcagtgcgg gcccggggcc tcctggacag gagctttgcc
1380
aacatggctg aacccttcaa ggtgtggacg gagaatgcag acgggtcagg cgctgtgaac
1440
ttcctgacag gcatggggggg cttcctgcag gcggtggtct tcgggtgcac ggggttcagg
1500
gtcacccgag cgggtgtgac ctttgaccct gtgtgtctgt cggggatctc cagagtgagc
1560
gtctccggca tcttctacca ggggaacaag ctcaacttct cttttttccga ggactccgtg
1620
accgtggagg tcacagctcg agcagggccc tgggctcctc acctggaggc tgagctgtgg
1680
ccatcccagt cccggctctc cctgttgcca ggacacaagg tctcctttcc ccgctcggct
1740
ggccggatac aaatgtcacc cccgaagctg cctggaagtt ccagctccga gttccctggg
1800
aggacttttt cagatgttag ggacccgctc cagagccccc tctgggtcac cctgggttcc
1860
tccagcccca ccgagtcact cactgtggac cctgcctctg aataatcagg aacggtggct
1920
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tcagagacgt ctcttgggcc ttccctctgg ccacgtctgc acccacccct cctgggcacc
1980
ctcctagcct gccatccctc acctgcagcc aggctctcag ggaaggtcca tgctgcttgg
2040
cctgagttca aggctttctg cctgtagcct ggactcccgt ggacccccgt gggcaggtgg
2100
cttccccgtg gcatctccac accgcctctg cctgcccctg tggactgatg ctatcgcgca
2160
cggtcccacg accccacccc gagctcctga agccggggtc tgagcctgca tcacctctgg
2220
cctctcatcc cccactctcc tgagagcagt ggtcacagcg gccggccgct ctgctgagaa
2280
ggcagagagg caggctcagg cctcagcgtg gacagcaggg ataaggggca cgaaggacgg
2340
ggactcggcc ccttcagaat tc
2362

<210> 5758
<211> 440
<212> PRT
<213> Homo sapiens

<400> 5758
Gly Pro Cys Ser Gln Asp Leu Trp Met Phe Pro Ser Ile Leu Met Phe
1   5   10   15
His Pro Glu Ala Ala Arg Ala Ile Leu Glu Tyr Arg Ile Arg Thr Leu
            20   25   30
Asp Gly Ala Leu Glu Asn Ala Gln Asn Leu Gly Tyr Gln Gly Ala Lys
        35   40   45
Phe Ala Trp Glu Ser Ala Asp Ser Gly Leu Glu Val Cys Pro Glu Asp
        50   55   60
Ile Tyr Gly Val Gln Glu Val His Val Asn Gly Ala Val Val Leu Ala
65   70   75   80
Phe Glu Leu Tyr Tyr His Thr Thr Gln Asp Leu Gln Leu Phe Arg Glu
                85   90   95
Gly Gly Gly Trp Glu Val Val Arg Ala Val Ala Lys Phe Trp Cys Ser
                100   105   110
Arg Val Glu Trp Ser Pro Arg Glu Glu Lys Tyr His Leu Arg Gly Val
            115   120   125
Met Ser Pro Asp Glu Tyr His Ser Gly Val Asn Asn Ser Val Tyr Thr
        130   135   140
Asn Val Leu Val Gln Asn Ser Leu Arg Phe Ala Ala Ala Leu Ala Gln
145   150   155   160
Asp Leu Gly Leu Pro Ile Pro Ser Gln Trp Leu Ala Val Ala Asp Lys
                165   170   175
Ile Lys Val Pro Phe Asp Val Glu Gln Asn Phe His Pro Glu Phe Asp
            180   185   190
Gly Tyr Glu Pro Gly Glu Val Val Lys Gln Ala Asp Val Val Leu Leu
            195   200   205
Gly Tyr Pro Val Pro Phe Ser Leu Ser Pro Asp Val Arg Arg Lys Asn
        210   215   220
Leu Glu Ile Tyr Glu Ala Val Thr Ser Pro Gln Gly Pro Ala Met Thr
225   230   235   240
Trp Ser Met Phe Ala Val Gly Trp Met Glu Leu Lys Asp Ala Val Arg

```
                    245                    250                    255
Ala Arg Gly Leu Leu Asp Arg Ser Phe Ala Asn Met Ala Glu Pro Phe
                260                    265                    270
Lys Val Trp Thr Glu Asn Ala Asp Gly Ser Gly Ala Val Asn Phe Leu
                275                    280                    285
Thr Gly Met Gly Gly Phe Leu Gln Ala Val Val Phe Gly Cys Thr Gly
                290                    295                    300
Phe Arg Val Thr Arg Ala Gly Val Thr Phe Asp Pro Val Cys Leu Ser
305                    310                    315                    320
Gly Ile Ser Arg Val Ser Val Ser Gly Ile Phe Tyr Gln Gly Asn Lys
                325                    330                    335
Leu Asn Phe Ser Phe Ser Glu Asp Ser Val Thr Val Glu Val Thr Ala
                340                    345                    350
Arg Ala Gly Pro Trp Ala Pro His Leu Glu Ala Glu Leu Trp Pro Ser
                355                    360                    365
Gln Ser Arg Leu Ser Leu Leu Pro Gly His Lys Val Ser Phe Pro Arg
                370                    375                    380
Ser Ala Gly Arg Ile Gln Met Ser Pro Pro Lys Leu Pro Gly Ser Ser
385                    390                    395                    400
Ser Ser Glu Phe Pro Gly Arg Thr Phe Ser Asp Val Arg Asp Pro Leu
                405                    410                    415
Gln Ser Pro Leu Trp Val Thr Leu Gly Ser Ser Ser Pro Thr Glu Ser
                420                    425                    430
Leu Thr Val Asp Pro Ala Ser Glu
                435                    440


<210> 5759
<211> 1333
<212> DNA
<213> Homo sapiens

<400> 5759
cgcacgggcg cgcgcagtgt tgacgcgctt cttagctggt gcgcgccgga gcccaaattc
60
caagtggaaa ctgcaggcgc acgagggagg aacgcgtgga gcatgaaaag caggggggcc
120
tcctctgagc gaaaacgagc gcggataccg tccgggaagg ccggagcagc aaatggattt
180
ctcatggaag tttgtgttga ttcagtggaa tcagctgtga atgcagaaag aggaggtgct
240
gatcggattg aattatgttc tggtttatca gaggggggaa ctacacccag catgggtgtc
300
cttcaagtag tgaagcagag tgttcagatc ccagtttttg tgatgattcg ccacggggga
360
ggtgattttt tgtattcaga tcgtgaaatt gaggtgatga aggctgacat tcgtcttgcc
420
aagctttatg gtgctgatgg tttggttttt ggggcattga ctgaagatgg acacattgac
480
aaagagctgt gtatgtccct tatggctatt tgccgccctc tgccagtcac tttccaccga
540
gcctttgaca tggttcatga tccaatggca gctctggaga ccctcttaac cttgggattt
600
gaacgcgtgt tgaccagtgg atgtgacagt tcagcattag aagggctacc cctaataaag
660
```

cgactcattg agcaggcaaa aggcaggatt gtggtaatgc caggaggtgg tataacagac
720
agaaatctac aaaggatcct tgagggttca ggtgctacag aattccactg ttctgctcgg
780
tctactagag actcgggaat gaagtttcga aattcatctg ttgccatggg agcctcactt
840
tcttgctcag aatattccct aaaggtaaca gatgtgacca aagtaaggac tttgaatgct
900
atcgcaaaga acatcctggt gtagccagac ctctctgaga gacatggata tcacaggatg
960
aaggtagaac tataatctgc aattctctat gacacagctt taaccttctt ctctggccag
1020
gacagtcgca atctttgttt taagtttcac atggccatgg agaatgtgcc caagaagaaa
1080
aagaatttga aacagagata cagtcacttc ctttgcttag tcttaccagt gattgtcatc
1140
atggttaaag ctggtctgtg cttcttccat agacagaagc ttagtctgtt ttcagtggaa
1200
ttaattgatg aactgggaaa attttaactg catggtatga attcagagtg tgacttaagg
1260
gtcaattcaa agcagtattt tgactttca tttgtaaaat aaaaatttcc actattaaaa
1320
aaaaaaaaaa aaa
1333

<210> 5760
<211> 273
<212> PRT
<213> Homo sapiens

<400> 5760
Met Lys Arg Gln Gly Ala Ser Ser Glu Arg Lys Arg Ala Arg Ile Pro
 1   5   10   15
Ser Gly Lys Ala Gly Ala Ala Asn Gly Phe Leu Met Glu Val Cys Val
            20   25   30
Asp Ser Val Glu Ser Ala Val Asn Ala Glu Arg Gly Gly Ala Asp Arg
        35   40   45
Ile Glu Leu Cys Ser Gly Leu Ser Glu Gly Gly Thr Thr Pro Ser Met
    50   55   60
Gly Val Leu Gln Val Val Lys Gln Ser Val Gln Ile Pro Val Phe Val
65   70   75   80
Met Ile Arg Pro Arg Gly Gly Asp Phe Leu Tyr Ser Asp Arg Glu Ile
                85   90   95
Glu Val Met Lys Ala Asp Ile Arg Leu Ala Lys Leu Tyr Gly Ala Asp
            100   105   110
Gly Leu Val Phe Gly Ala Leu Thr Glu Asp Gly His Ile Asp Lys Glu
            115   120   125
Leu Cys Met Ser Leu Met Ala Ile Cys Arg Pro Leu Pro Val Thr Phe
    130   135   140
His Arg Ala Phe Asp Met Val His Asp Pro Met Ala Ala Leu Glu Thr
145   150   155   160
Leu Leu Thr Leu Gly Phe Glu Arg Val Leu Thr Ser Gly Cys Asp Ser
                165   170   175
Ser Ala Leu Glu Gly Leu Pro Leu Ile Lys Arg Leu Ile Glu Gln Ala

4922

```
                180                    185                    190
Lys Gly Arg Ile Val Val Met Pro Gly Gly Gly Ile Thr Asp Arg Asn
        195                    200                    205
Leu Gln Arg Ile Leu Glu Gly Ser Gly Ala Thr Glu Phe His Cys Ser
    210                    215                    220
Ala Arg Ser Thr Arg Asp Ser Gly Met Lys Phe Arg Asn Ser Ser Val
225                    230                    235                    240
Ala Met Gly Ala Ser Leu Ser Cys Ser Glu Tyr Ser Leu Lys Val Thr
                245                    250                    255
Asp Val Thr Lys Val Arg Thr Leu Asn Ala Ile Ala Lys Asn Ile Leu
            260                    265                    270
Val


<210> 5761
<211> 1452
<212> DNA
<213> Homo sapiens

<400> 5761
nnaccatctt aaggacagaa aagctacagg actctaggag gccaccgtcc tgatttggga
60
agtccaactt actttggcca gacagcagct aagctggttc atcccatcag cctggattgg
120
tgaaactgaa tcacaggaga tatttccagg tttgctggga tgggaaacct gctcaaagtc
180
cttaccaggg aaattgaaaa ctatccacac tttttcctgg attttgaaaa tgctcagcct
240
acagaaggag agagagaaat ctggaaccag atcagcgccg tccttcagga ttctgagagc
300
atccttgcag acctgcaggc ttacaaaggc gcaggcccag agatccgaga tgcaattcaa
360
aatcccaatg acattcagct tcaagaaaaa gcttggaatg cggtgtgccc tcttgttgtg
420
aggctaaaga gattttacga gttttccatt agactagaaa aagctcttca gagtttattg
480
gaatctctga cttgtccacc ctacacacca acccaacacc tggaaaggga acaggccctg
540
gcaaaggagt ttgccgaaat tttacatttt acccttcgat tcgatgagct gaagatgagg
600
aacccggcta ttcagaatga cttcagctac tacagaagaa caatcagtcg caaccgcatc
660
aacaacatgc acctagacat tgagaatgaa gtcaataatg agatggccaa tcgaatgtcc
720
ctcttctatg cagaagccac gccaatgctg aaaacccttacgcaatgccac aatgcacttt
780
gtctctgaaa acaaaactct gccaatagag aacaccacag actgcctcag cacaatgaca
840
agtgtctgta aagtcatgct ggaaactccg gagtacagaa gtaggtttac gagtgaagag
900
acccctgatgt tctgcatgag ggtgatggtg ggagtcatca tcctctatga ccatgtccac
960
cctgtgggag ctttctgcaa gacatccaag atcgatatga aaggctgcat aaaagttttg
1020
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```
aaggagcagg ccccagacag tgtggagggg ctgctaaatg ccctcaggtt cactacaaag
1080
cacttgaacg atgaatcaac ttccaaacag attcgagcaa tgcttcagta gagctctgct
1140
caaagaagag gatctatgtg ctgacctcag aagatgtata tgtttacata atttaataca
1200
gattgatgtt aatacttgtg tatttacata accgtttcct tcttgtcact gaaatatatg
1260
gaccttaatt tgtatcctga ctgactcaac ccagcagagc ataaattgac ttgagagcct
1320
tacctttgat gtctgaaatg aaacccccct ctccaaaggc aaaattcgga gactttgatc
1380
tttgctactg gagtccttta acaacaccta taacgataaa aaattcctaa ttgtttgtgg
1440
tagtaaaaaa aa
1452
```

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<210> 5762
<211> 333
<212> PRT
<213> Homo sapiens
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<400> 5762
Ile Thr Gly Asp Ile Ser Arg Phe Ala Gly Met Gly Asn Leu Leu Lys
1               5                   10                  15
Val Leu Thr Arg Glu Ile Glu Asn Tyr Pro His Phe Phe Leu Asp Phe
            20                  25                  30
Glu Asn Ala Gln Pro Thr Glu Gly Glu Arg Glu Ile Trp Asn Gln Ile
        35                  40                  45
Ser Ala Val Leu Gln Asp Ser Glu Ser Ile Leu Ala Asp Leu Gln Ala
    50                  55                  60
Tyr Lys Gly Ala Gly Pro Glu Ile Arg Asp Ala Ile Gln Asn Pro Asn
65                  70                  75                  80
Asp Ile Gln Leu Gln Glu Lys Ala Trp Asn Ala Val Cys Pro Leu Val
                85                  90                  95
Val Arg Leu Lys Arg Phe Tyr Glu Phe Ser Ile Arg Leu Glu Lys Ala
            100                 105                 110
Leu Gln Ser Leu Leu Glu Ser Leu Thr Cys Pro Pro Tyr Thr Pro Thr
        115                 120                 125
Gln His Leu Glu Arg Glu Gln Ala Leu Ala Lys Glu Phe Ala Glu Ile
    130                 135                 140
Leu His Phe Thr Leu Arg Phe Asp Glu Leu Lys Met Arg Asn Pro Ala
145                 150                 155                 160
Ile Gln Asn Asp Phe Ser Tyr Tyr Arg Arg Thr Ile Ser Arg Asn Arg
                165                 170                 175
Ile Asn Asn Met His Leu Asp Ile Glu Asn Glu Val Asn Asn Glu Met
            180                 185                 190
Ala Asn Arg Met Ser Leu Phe Tyr Ala Glu Ala Thr Pro Met Leu Lys
        195                 200                 205
Thr Leu Ser Asn Ala Thr Met His Phe Val Ser Glu Asn Lys Thr Leu
    210                 215                 220
Pro Ile Glu Asn Thr Thr Asp Cys Leu Ser Thr Met Thr Ser Val Cys
225                 230                 235                 240
Lys Val Met Leu Glu Thr Pro Glu Tyr Arg Ser Arg Phe Thr Ser Glu
```

4924

```
                    245                  250                  255
Glu Thr Leu Met Phe Cys Met Arg Val Met Val Gly Val Ile Ile Leu
                260                  265                  270
Tyr Asp His Val His Pro Val Gly Ala Phe Cys Lys Thr Ser Lys Ile
            275                  280                  285
Asp Met Lys Gly Cys Ile Lys Val Leu Lys Glu Gln Ala Pro Asp Ser
        290                  295                  300
Val Glu Gly Leu Leu Asn Ala Leu Arg Phe Thr Thr Lys His Leu Asn
305                  310                  315                  320
Asp Glu Ser Thr Ser Lys Gln Ile Arg Ala Met Leu Gln
                325                  330
```

<210> 5763
<211> 3840
<212> DNA
<213> Homo sapiens

<400> 5763

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cagggagaaa agaaggttcg ggccccgctc tcgcaactct acttctgccg ctattgtagc
120
gaactgcggt cgctggaatg tgtgtctcac gaggtggact cccattattg tcccagttgt
180
ttagaaaata tgccatcggc tgaagccaaa ctaaaaaaga atagatgtgc caattgtttt
240
gactgtcctg gctgcatgca caccctctct actcgggcca cgagcatctc cacacagctt
300
ccagatgacc cagccaagac caccatgaag aaagcctatt acctggcatg tggattttgt
360
cgctggacgt ctagagatgt gggcatggca gacaaatctg tagctagtgg cggttggcag
420
gaacctgaaa atcctcacac acaacggatg aacaaattga ttgaatatta ccagcagctt
480
gctcagaaag agaaggttga gcgagatcgc aagaaactgg cacgacgtag aaactatatg
540
cctctggctt tttcggacaa atatggtctt ggaaccaggc ttcagcgacc acgagctggt
600
gcatccatca gtacccttgc cggactttcc cttaaagaag gagaggatca gaaagaggta
660
aagattgagc cagctcaggc tgtggatgaa gtggaacctc tacctgaaga ctattataca
720
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1080
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2340
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2580
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2700
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4926

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2820
gttttaaata tttaggaagc ttttaaaaga cactaaattg tactctaaaa gacactaaat
2880
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2940
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3000
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3060
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3180
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3240
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3300
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<210> 5764
<211> 466
<212> PRT
<213> Homo sapiens
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<400> 5764
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Leu Tyr Leu Val Gln Gly Glu Lys Lys Val Arg Ala Pro Leu Ser Gln
            20                  25                  30
Leu Tyr Phe Cys Arg Tyr Cys Ser Glu Leu Arg Ser Leu Glu Cys Val
        35                  40                  45
Ser His Glu Val Asp Ser His Tyr Cys Pro Ser Cys Leu Glu Asn Met
    50                  55                  60
Pro Ser Ala Glu Ala Lys Leu Lys Lys Asn Arg Cys Ala Asn Cys Phe
```

4927

```
65                    70                75                 80
Asp Cys Pro Gly Cys Met His Thr Leu Ser Thr Arg Ala Thr Ser Ile
                     85                90                 95
Ser Thr Gln Leu Pro Asp Asp Pro Ala Lys Thr Thr Met Lys Lys Ala
                100              105               110
Tyr Tyr Leu Ala Cys Gly Phe Cys Arg Trp Thr Ser Arg Asp Val Gly
            115             120               125
Met Ala Asp Lys Ser Val Ala Ser Gly Gly Trp Gln Glu Pro Glu Asn
    130             135               140
Pro His Thr Gln Arg Met Asn Lys Leu Ile Glu Tyr Tyr Gln Gln Leu
145             150               155                  160
Ala Gln Lys Glu Lys Val Glu Arg Asp Arg Lys Lys Leu Ala Arg Arg
                165               170               175
Arg Asn Tyr Met Pro Leu Ala Phe Ser Asp Lys Tyr Gly Leu Gly Thr
            180             185               190
Arg Leu Gln Arg Pro Arg Ala Gly Ala Ser Ile Ser Thr Leu Ala Gly
        195             200               205
Leu Ser Leu Lys Glu Gly Glu Asp Gln Lys Glu Val Lys Ile Glu Pro
    210             215               220
Ala Gln Ala Val Asp Glu Val Glu Pro Leu Pro Glu Asp Tyr Tyr Thr
225             230               235                  240
Arg Pro Val Asn Leu Thr Glu Val Thr Thr Leu Gln Gln Arg Leu Leu
                245               250               255
Gln Pro Asp Phe Gln Pro Val Cys Ala Ser Gln Leu Tyr Pro Arg His
            260             265               270
Lys His Leu Leu Ile Lys Arg Ser Leu Arg Cys Arg Lys Cys Glu His
    275             280               285
Asn Leu Ser Lys Pro Glu Phe Asn Pro Thr Ser Ile Lys Phe Lys Ile
    290             295               300
Gln Leu Val Ala Val Asn Tyr Ile Pro Glu Val Arg Ile Met Ser Ile
305             310               315                  320
Pro Asn Leu Arg Tyr Met Lys Glu Ser Gln Val Leu Leu Thr Leu Thr
                325               330               335
Asn Pro Val Glu Asn Leu Thr His Val Thr Leu Phe Glu Cys Glu Glu
                340               345               350
Gly Asp Pro Asp Asp Ile Asn Ser Thr Ala Lys Val Val Val Pro Pro
            355             360               365
Lys Glu Leu Val Leu Ala Gly Lys Asp Ala Ala Ala Glu Tyr Asp Glu
    370             375               380
Leu Ala Glu Pro Gln Asp Phe Gln Asp Asp Pro Asp Ile Ile Ala Phe
385             390               395                  400
Arg Lys Ala Asn Lys Val Gly Ile Phe Ile Lys Val Thr Pro Gln Arg
                405               410               415
Glu Glu Gly Glu Val Thr Val Cys Phe Lys Met Lys His Asp Phe Lys
            420             425               430
Asn Leu Ala Ala Pro Ile Arg Pro Ile Glu Glu Ser Asp Gln Gly Thr
            435             440               445
Glu Val Ile Trp Leu Thr Gln His Val Glu Leu Ser Leu Gly Pro Leu
    450             455               460
Leu Pro
465

<210> 5765
<211> 3220
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4928

<212> DNA
<213> Homo sapiens

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120
gagctggtga ctgccctcat gtgtgatttg cggcggccag cggcaggtgg gatgatggac
180
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240
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300
gaccaggacc tgacccgcat gatccacatc ctggacacgg agcacccctg ggacctgcac
360
tcgatccccт cagagcacca cgaggccatc acctgcctgg agtgggacca gtcaggctcc
420
cggctcctgt cagcagatgc cgacgggcag atcaagtgct ggagcatggc ggaccacctg
480
gctaatagct gggagagctc agtgggcagc ctagtggagg gggaccccat tgtggccctg
540
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720
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780
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840
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900
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1500

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3120
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3180
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3220


<210> 5766
<211> 873
<212> PRT
<213> Homo sapiens


<400> 5766
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Tyr Val Cys Glu Trp Glu Lys Trp Ser Lys Ser Thr His Cys Pro Ser
                20                  25                  30
Val Pro Leu Ala Cys Ala Trp Ser Cys Arg Asn Leu Ile Ala Phe Thr
            35                  40                  45
Met Asp Leu Arg Ser Asp Asp Gln Asp Leu Thr Arg Met Ile His Ile
        50                  55                  60
Leu Asp Thr Glu His Pro Trp Asp Leu His Ser Ile Pro Ser Glu His
65                  70                  75                  80
His Glu Ala Ile Thr Cys Leu Glu Trp Asp Gln Ser Gly Ser Arg Leu
                85                  90                  95
Leu Ser Ala Asp Ala Asp Gly Gln Ile Lys Cys Trp Ser Met Ala Asp
                100                 105                 110
His Leu Ala Asn Ser Trp Glu Ser Ser Val Gly Ser Leu Val Glu Gly
            115                 120                 125
Asp Pro Ile Val Ala Leu Ser Trp Leu His Asn Gly Val Lys Leu Ala
        130                 135                 140
Leu His Val Glu Lys Ser Gly Ala Ser Ser Phe Gly Glu Lys Phe Ser
145                 150                 155                 160
Arg Val Lys Phe Ser Pro Ser Leu Thr Leu Phe Gly Gly Lys Pro Met
                165                 170                 175
Glu Gly Trp Ile Ala Val Thr Val Ser Gly Leu Val Thr Val Ser Leu
                180                 185                 190
Leu Lys Pro Ser Gly Gln Val Leu Thr Ser Thr Glu Ser Leu Cys Arg
            195                 200                 205
Leu Arg Gly Arg Val Ala Leu Ala Asp Ile Ala Phe Thr Gly Gly Gly
        210                 215                 220
Asn Ile Val Val Ala Thr Ala Asp Gly Ser Ser Ala Ser Pro Val Gln
225                 230                 235                 240
Phe Tyr Lys Val Cys Val Ser Val Val Ser Glu Lys Cys Arg Ile Asp
                245                 250                 255
Thr Glu Ile Leu Pro Ser Leu Phe Met Arg Cys Thr Thr Asp Leu Asn
                260                 265                 270
Arg Lys Asp Lys Phe Pro Ala Ile Thr His Leu Lys Phe Leu Ala Arg
            275                 280                 285
Asp Met Ser Glu Gln Val Leu Leu Cys Ala Ser Ser Gln Thr Ser Ser
        290                 295                 300
Ile Val Glu Cys Trp Ser Leu Arg Lys Glu Gly Leu Pro Val Asn Asn
305                 310                 315                 320
Ile Phe Gln Gln Ile Ser Pro Val Val Gly Asp Lys Gln Pro Thr Ile
                325                 330                 335
Leu Lys Trp Arg Ile Leu Ser Ala Thr Asn Asp Leu Asp Arg Val Ser
```

4931

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                340                     345                     350
Ala Val Ala Leu Pro Lys Leu Pro Ile Ser Leu Thr Asn Thr Asp Leu
            355                     360                     365
Lys Val Ala Ser Asp Thr Gln Phe Tyr Pro Gly Leu Gly Leu Ala Leu
        370                     375                     380
Ala Phe His Asp Gly Ser Val His Ile Val His Arg Leu Ser Leu Gln
385                     390                     395                 400
Thr Met Ala Val Phe Tyr Ser Ser Ala Ala Pro Arg Pro Val Asp Glu
                405                     410                     415
Pro Ala Met Lys Arg Pro Arg Thr Ala Gly Pro Ala Val His Leu Lys
            420                     425                     430
Ala Met Gln Leu Ser Trp Thr Ser Leu Ala Leu Val Gly Ile Asp Ser
        435                     440                     445
His Gly Lys Leu Ser Val Leu Arg Leu Ser Pro Ser Met Gly His Pro
    450                     455                     460
Leu Glu Val Gly Leu Ala Leu Arg His Leu Leu Phe Leu Leu Glu Tyr
465                     470                     475                 480
Cys Met Val Thr Gly Tyr Asp Trp Trp Asp Ile Leu Leu His Val Gln
                485                     490                     495
Pro Ser Met Val Gln Ser Leu Val Glu Lys Leu His Glu Glu Tyr Thr
            500                     505                     510
Arg Gln Thr Ala Ala Leu Gln Gln Val Leu Ser Thr Arg Ile Leu Ala
        515                     520                     525
Met Lys Ala Ser Leu Cys Lys Leu Ser Pro Cys Thr Val Thr Arg Val
    530                     535                     540
Cys Asp Tyr His Thr Lys Leu Phe Leu Ile Ala Ile Ser Ser Thr Leu
545                     550                     555                 560
Lys Ser Leu Leu Arg Pro His Phe Leu Asn Thr Pro Asp Lys Ser Pro
                565                     570                     575
Gly Asp Arg Leu Thr Glu Ile Cys Thr Lys Ile Thr Asp Val Asp Ile
            580                     585                     590
Asp Lys Val Met Ile Asn Leu Lys Thr Glu Glu Phe Val Leu Asp Met
            595                     600                     605
Thr His Cys Arg Arg Cys Ser Ser Ser Cys Ser Gly Trp Ala Thr Ser
    610                     615                     620
Cys Cys Thr Cys Trp Pro Ala Tyr Pro Thr Ser Pro Ala Pro Pro Arg
625                     630                     635                 640
Ser Pro Ala Pro Pro Arg Ser Pro Pro Pro Arg Ser Pro Pro Pro
                645                     650                     655
Pro Arg Ser Pro Pro Leu His Glu Ala Ser Ala Gly Ser Leu Leu Arg
            660                     665                     670
Pro Gly His Ser Phe Leu Arg Asp Gly Thr Ser Leu Gly Met Leu Arg
        675                     680                     685
Glu Leu Met Val Val Ile Arg Ile Trp Gly Leu Leu Lys Pro Ser Cys
    690                     695                     700
Leu Pro Val Tyr Thr Ala Thr Ser Asp Thr Gln Asp Ser Met Ser Leu
705                     710                     715                 720
Leu Phe Arg Leu Leu Thr Lys Leu Trp Ile Cys Cys Arg Asp Glu Gly
                725                     730                     735
Pro Ala Ser Glu Pro Asp Glu Ala Leu Val Asp Glu Cys Cys Leu Leu
            740                     745                     750
Pro Ser Gln Leu Leu Ile Pro Ser Leu Asp Trp Leu Pro Ala Ser Asp
            755                     760                     765
Gly Leu Val Ser Arg Leu Gln Pro Lys Gln Pro Leu Arg Leu Gln Phe
```

```
         770                  775                  780
Gly Arg Ala Pro Thr Leu Pro Gly Ser Ala Ala Thr Leu Gln Leu Asp
785                  790                  795                  800
Gly Leu Ala Arg Ala Pro Gly Gln Pro Lys Ile Asp His Leu Arg Arg
             805                  810                  815
Leu His Leu Gly Ala Cys Pro Thr Glu Glu Cys Lys Ala Cys Thr Arg
             820                  825                  830
Cys Gly Cys Val Thr Met Leu Lys Ser Pro Asn Arg Thr Thr Ala Val
         835                  840                  845
Lys Gln Trp Glu Gln Arg Trp Ile Lys Asn Cys Leu Cys Gly Gly Leu
     850                  855                  860
Trp Trp Arg Val Pro Leu Ser Tyr Pro
865                  870
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<210> 5767
<211> 1910
<212> DNA
<213> Homo sapiens

<400> 5767
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120
tcagtatcgt gggttttgct gctattctga agggatcccc catcacgctg gcagctgtgt
180
gccaggagag accctgaggg ctgcctcacc acagcaggaa cgcccttctc agtcccagcc
240
caatcctctc tcacactgcg gtgctctgtc cctatggaaa cagcctctgt atgtgtgtgt
300
gtgtgtgtgt gtgtgtgtgt gtgtgaataa tatatggaat aaagtttgag attccctgct
360
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420
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480
aaataagtga aaaggcattg agagattgct aagatttgtt aagttaaaac aataatatat
540
ctagaaaaga ctgtgaaaat atatatctca aaagagaaca aggcatagtc agaaggctca
600
gtaaaacaat tactttaaaa gctgactaat aaaaagggta agtgaaagaa ctcttccatc
660
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720
aacctaaaag ccatgaaaaa gtgctggtat ttttcaggat ctcttcaaga caccttccgt
780
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900
gcagaggctc gctggtgtgg ggatgacaca tgaagagagg acatgctgga ggtactccga
960
agaaactggt gcaagccgtc gtcactgtca ctggagctgg ctatactgtt cctcatttcc
1020
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aacatggaga tctgtgtgca gaggctgagc tgatgttcca gctttttggc tttcttatca
1080
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1140
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1200
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1260
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1320
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1380
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```
<210> 5768
<211> 360
<212> PRT
<213> Homo sapiens
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1               5                   10                  15
Phe Thr Pro Glu Leu Glu Ser Ile Ile Pro Val Pro Ser Asn Lys Thr
            20                  25                  30
Thr Cys Glu Asn Trp Arg Glu Ile His His Leu Val Phe His Val Ala
        35                  40                  45
Asn Ile Cys Phe Ala Val Gly Leu Val Ile Pro Thr Thr Leu His Leu
    50                  55                  60
His Met Ile Phe Leu Arg Gly Met Leu Thr Leu Gly Cys Thr Leu Tyr
65                  70                  75                  80
Ile Val Trp Ala Thr Leu Tyr Arg Cys Ala Leu Asp Ile Met Ile Trp
                85                  90                  95
Asn Ser Val Phe Leu Gly Val Asn Ile Leu His Leu Ser Tyr Leu Leu
                100                 105                 110
Tyr Lys Lys Arg Pro Val Lys Ile Glu Lys Glu Leu Ser Gly Met Tyr
            115                 120                 125
Arg Arg Leu Phe Glu Pro Leu Arg Val Pro Pro Asp Leu Phe Arg Arg
```

```
        130                    135                    140
Leu Thr Gly Gln Phe Cys Met Ile Gln Thr Leu Lys Lys Gly Gln Thr
145                    150                    155                    160
Tyr Ala Ala Glu Asp Lys Thr Ser Val Asp Asp Arg Leu Ser Ile Leu
                165                    170                    175
Leu Lys Gly Lys Met Lys Val Ser Tyr Arg Gly His Phe Leu His Asn
                180                    185                    190
Ile Tyr Pro Cys Ala Phe Ile Asp Ser Pro Glu Phe Arg Ser Thr Gln
            195                    200                    205
Met His Lys Gly Glu Lys Phe Gln Val Thr Ile Ile Ala Asp Asp Asn
        210                    215                    220
Cys Arg Phe Leu Cys Trp Ser Arg Glu Arg Leu Thr Tyr Phe Leu Glu
225                    230                    235                    240
Ser Glu Pro Phe Leu Tyr Glu Ile Phe Arg Tyr Leu Ile Gly Lys Asp
                245                    250                    255
Ile Thr Asn Lys Leu Tyr Ser Leu Asn Asp Pro Thr Leu Asn Asp Lys
            260                    265                    270
Lys Ala Lys Lys Leu Glu His Gln Leu Ser Leu Cys Thr Gln Ile Ser
            275                    280                    285
Met Leu Glu Met Arg Asn Ser Ile Ala Ser Ser Ser Asp Ser Asp Asp
        290                    295                    300
Gly Leu His Gln Phe Leu Arg Ser Thr Ser Ser Met Ser Ser Leu His
305                    310                    315                    320
Val Ser Ser Pro His Gln Arg Ala Ser Ala Lys Met Lys Pro Ile Glu
                325                    330                    335
Glu Gly Ala Glu Asp Asp Asp Asp Val Phe Glu Pro Ala Ser Pro Asn
            340                    345                    350
Thr Leu Lys Val His Gln Leu Pro
            355                    360
```

```
<210> 5769
<211> 427
<212> DNA
<213> Homo sapiens

<400> 5769
gctagcagtg gggttgctag tgacaccata gcatttggag agcatcacct ccctcctgtg
60
agtatggcat ccactgtacc tcactccctt cgtcaggcga gagataacac aatcatggat
120
ctgcagacac agctgaagga agtattaaga gaaaatgatc tcttgcggaa ggatgtggaa
180
gtaaaggaga gcaaattgag ttcttcaatg aatagcatca agatcttctg gggcccagag
240
ctgaagaagg aacgagccct gagaaaggat gaagcttcca aaatccccat ttggaaggaa
300
cagtacagag ttgtacaaga ggaaaaccag gtaagttcta cgtgtgttta cctttattgg
360
ctgaattcat gtatataaat gaaatagcct ttttttttccc ctttcctaga tttttccctt
420
cacgcgt
427


<210> 5770
```

<211> 85
<212> PRT
<213> Homo sapiens

<400> 5770
Leu Gln Thr Gln Leu Lys Glu Val Leu Arg Glu Asn Asp Leu Leu Arg
 1   5   10   15
Lys Asp Val Glu Val Lys Glu Ser Lys Leu Ser Ser Ser Met Asn Ser
            20   25   30
Ile Lys Ile Phe Trp Gly Pro Glu Leu Lys Lys Glu Arg Ala Leu Arg
        35   40   45
Lys Asp Glu Ala Ser Lys Ile Pro Ile Trp Lys Glu Gln Tyr Arg Val
        50   55   60
Val Gln Glu Glu Asn Gln Val Ser Ser Thr Cys Val Tyr Leu Tyr Trp
65   70   75   80
Leu Asn Ser Cys Ile
                85

<210> 5771
<211> 2539
<212> DNA
<213> Homo sapiens

<400> 5771
gtacacattc caaaaagaga ttgatacact tgcaatgaag ggttcttgct tgagggagcc
60
aggagtcggg tttgtcttgc caatggaagt tggagtggag ccactcccga ctgtgtgcct
120
gtcagatgtg ccaccccgcc acaactggcc aatggggtga cggaaggcct ggactatggc
180
ttcatgaagg aagtaacatt ccactgtcat gggctacatc ttgcacggtg ctccaaaact
240
cacctgtcag tcagaggcaa ctgggatgca gagattcctc tctgtaaacc agtcaactgt
300
ggacctcctg aagatcttgc ccatggtttc cctaatggtt tttcctttat tcatgggggc
360
catatacagt atcagtgctt tcctggttat aagctccatg gaaattcatc aagaaggtgc
420
ctctccaatg gctcctggag tggcagctca ccttcctgcc tgccttgcag atgttccaca
480
ccagtaattg aatatggaac tgtcaatggg acagattttg actgtggaaa ggcagcccgg
540
attcagtgct tcaaaggctt caagctccta ggactttctg aaatcacctg tgaagccgat
600
ggccagtgga gctctgggtt cccccactgt gaacacactt cttgtggttc tcttccaatg
660
ataccaaatg cgttcatcag tgagaccagc tcttggaagg aaaatgtgat aacttacagc
720
tgcaggtctg gatatgtcat acaaggcagt tcagatctga tttgtacaga gaaagggta
780
tggaaccagc cttatccagt ctgtgagccc ttgtcctgtg ggtccccacc gtctgtcgcc
840
aatgcagtgg caactggaga ggcacacacc tatgaaagtg aagtgaaact cagatgtctg
900

4936

```
gaaggttata cgatggatac agatacagat acaatcacct gtcagaaaga tggtcgctgg
960
ttccctgaga gaatctcctg cagtcctaaa aaatgtcctc tcccggaaaa cataacacat
1020
atacttgtac atggggacga tttcagtgtg aataggcaag tttctgtgtc atgtgcagaa
1080
gggtatacct ttgagggagt taacatatca gtatgtcagc ttgatggaac ctgggagcca
1140
ccattctccg atgaatcttg cagtccagtt tcttgtggga aacctgaaag tccagaacat
1200
ggatttgtgg ttggcagtaa atacaccttt gaaagcacaa ttatttatca gtgtgagcct
1260
ggctatgaac tagaggggaa cagggaacgt gtctgccagg agaacagaca gtggagtgga
1320
ggggtggcaa tatgcaaaga gaccaggtgt gaaactccac ttgaatttct caatgggaaa
1380
gctgacattg aaaacaggac gactggaccc aacgtggtat attcctgcaa cagaggctac
1440
agtcttgaag ggccatctga ggcacactgc acagaaaatg gaacctggag ccacccagtc
1500
cctctctgca aaccaaatcc atgccctgtt ccttttgtga ttcccgagaa tgctctgctg
1560
tctgaaaagg agttttatgt tgatcagaat gtgtccatca aatgtaggga aggttttctg
1620
ctgcagggcc acggcatcat tacctgcaac cccgacgaga cgtggacaca gacaagcgcc
1680
aaatgtgaaa aaatctcatg tggtccacca gctcacgtag aaaatgcaat tgctcgaggc
1740
gtacattatc aatatggaga catgatcacc tactcatgtt acagtggata catgttggag
1800
ggtttcctga ggagtgtttg tttagaaaat ggaacatgga catcacctcc tatttgcaga
1860
gctgtctgtc gatttccatg tcagaatggg gggcatctgc caacgcccaa atgcttgttc
1920
ctgtccagag ggctggatgg ggcgcctctg tgaagaacca atctgcattc ttccctgtct
1980
gaacggaggt cgctgtgtgg ccccttacca gtgtgactgc ccgcctggct ggacggggtc
2040
tcgctgtcat acagctgttt gccagtctcc ctgcttaaat ggtggaaaat gtgtaagacc
2100
aaaccgatgt cactgtcttt cttcttggac gggacataac tgttccagga aaaggaggac
2160
tgggttttaa ccactgcacg accatctggc tctcccaaaa gcaggatcat ctctcctcgg
2220
tagtgcctgg gcatcctgga acttatgcaa agaaagtcca acatggtgct gggtcttgtt
2280
tagtaaactt gttacttggg gttacttttt ttattttgtg atatattttg ttattccttg
2340
tgacatactt tcttacatgt ttccattttt aaatatgcct gtattttcta tataaaaatt
2400
atattaaata gatgctgctc taccctcaca aaatgtacat attctgctgt ctattgggaa
2460
agttcctggt acacattttt attcagttac ttaaaatgat ttttccatta aagtatattt
2520
```

tgctactaaa taaaaaaaa
2539

<210> 5772
<211> 642
<212> PRT
<213> Homo sapiens

<400> 5772
Tyr Thr Cys Asn Glu Gly Phe Leu Leu Glu Gly Ala Arg Ser Arg Val
1   5   10   15
Cys Leu Ala Asn Gly Ser Trp Ser Gly Ala Thr Pro Asp Cys Val Pro
            20   25   30
Val Arg Cys Ala Thr Pro Pro Gln Leu Ala Asn Gly Val Thr Glu Gly
        35   40   45
Leu Asp Tyr Gly Phe Met Lys Glu Val Thr Phe His Cys His Gly Leu
    50   55   60
His Leu Ala Arg Cys Ser Lys Thr His Leu Ser Val Arg Gly Asn Trp
65   70   75   80
Asp Ala Glu Ile Pro Leu Cys Lys Pro Val Asn Cys Gly Pro Pro Glu
                85   90   95
Asp Leu Ala His Gly Phe Pro Asn Gly Phe Ser Phe Ile His Gly Gly
            100   105   110
His Ile Gln Tyr Gln Cys Phe Pro Gly Tyr Lys Leu His Gly Asn Ser
        115   120   125
Ser Arg Arg Cys Leu Ser Asn Gly Ser Trp Ser Gly Ser Ser Pro Ser
    130   135   140
Cys Leu Pro Cys Arg Cys Ser Thr Pro Val Ile Glu Tyr Gly Thr Val
145   150   155   160
Asn Gly Thr Asp Phe Asp Cys Gly Lys Ala Ala Arg Ile Gln Cys Phe
                165   170   175
Lys Gly Phe Lys Leu Leu Gly Leu Ser Glu Ile Thr Cys Glu Ala Asp
            180   185   190
Gly Gln Trp Ser Ser Gly Phe Pro His Cys Glu His Thr Ser Cys Gly
        195   200   205
Ser Leu Pro Met Ile Pro Asn Ala Phe Ile Ser Glu Thr Ser Ser Trp
    210   215   220
Lys Glu Asn Val Ile Thr Tyr Ser Cys Arg Ser Gly Tyr Val Ile Gln
225   230   235   240
Gly Ser Ser Asp Leu Ile Cys Thr Glu Lys Gly Val Trp Asn Gln Pro
                245   250   255
Tyr Pro Val Cys Glu Pro Leu Ser Cys Gly Ser Pro Pro Ser Val Ala
            260   265   270
Asn Ala Val Ala Thr Gly Glu Ala His Thr Tyr Glu Ser Glu Val Lys
        275   280   285
Leu Arg Cys Leu Glu Gly Tyr Thr Met Asp Thr Asp Thr Asp Thr Ile
    290   295   300
Thr Cys Gln Lys Asp Gly Arg Trp Phe Pro Glu Arg Ile Ser Cys Ser
305   310   315   320
Pro Lys Lys Cys Pro Leu Pro Glu Asn Ile Thr His Ile Leu Val His
                325   330   335
Gly Asp Asp Phe Ser Val Asn Arg Gln Val Ser Val Ser Cys Ala Glu
            340   345   350
Gly Tyr Thr Phe Glu Gly Val Asn Ile Ser Val Cys Gln Leu Asp Gly

```
            355                    360                    365
Thr Trp Glu Pro Pro Phe Ser Asp Glu Ser Cys Ser Pro Val Ser Cys
    370                    375                    380
Gly Lys Pro Glu Ser Pro Glu His Gly Phe Val Val Gly Ser Lys Tyr
385                    390                    395                    400
Thr Phe Glu Ser Thr Ile Ile Tyr Gln Cys Glu Pro Gly Tyr Glu Leu
                405                    410                    415
Glu Gly Asn Arg Glu Arg Val Cys Gln Glu Asn Arg Gln Trp Ser Gly
                420                    425                    430
Gly Val Ala Ile Cys Lys Glu Thr Arg Cys Glu Thr Pro Leu Glu Phe
                435                    440                    445
Leu Asn Gly Lys Ala Asp Ile Glu Asn Arg Thr Thr Gly Pro Asn Val
                450                    455                    460
Val Tyr Ser Cys Asn Arg Gly Tyr Ser Leu Glu Gly Pro Ser Glu Ala
465                    470                    475                    480
His Cys Thr Glu Asn Gly Thr Trp Ser His Pro Val Pro Leu Cys Lys
                485                    490                    495
Pro Asn Pro Cys Pro Val Pro Phe Val Ile Pro Glu Asn Ala Leu Leu
                500                    505                    510
Ser Glu Lys Glu Phe Tyr Val Asp Gln Asn Val Ser Ile Lys Cys Arg
                515                    520                    525
Glu Gly Phe Leu Leu Gln Gly His Gly Ile Ile Thr Cys Asn Pro Asp
                530                    535                    540
Glu Thr Trp Thr Gln Thr Ser Ala Lys Cys Glu Lys Ile Ser Cys Gly
545                    550                    555                    560
Pro Pro Ala His Val Glu Asn Ala Ile Ala Arg Gly Val His Tyr Gln
                565                    570                    575
Tyr Gly Asp Met Ile Thr Tyr Ser Cys Tyr Ser Gly Tyr Met Leu Glu
                580                    585                    590
Gly Phe Leu Arg Ser Val Cys Leu Glu Asn Gly Thr Trp Thr Ser Pro
                595                    600                    605
Pro Ile Cys Arg Ala Val Cys Arg Phe Pro Cys Gln Asn Gly Gly His
                610                    615                    620
Leu Pro Thr Pro Lys Cys Leu Phe Leu Ser Arg Gly Leu Asp Gly Ala
625                    630                    635                    640
Pro Leu
```

<210> 5773
<211> 579
<212> DNA
<213> Homo sapiens

<400> 5773
nnacgcgtga ggggcctgag gcgagcggtt agagcgtctc ccggaaggat gggccggtct
60
cggagccgga gctcgtcccg ctccaagcac accaagagca gcaagcacaa caagaagcgc
120
agccggtccc ggtcgcgatc ccgggacaag gagcgcgtgc ggaagcgttc caaatctcgg
180
gaaagtaaac ggaaccggcg gcgggagtcg cggtcccgtt cgcgctccac caacacggcc
240
gtgtcccggc gcgagcggga ccgggagcgc cctcgtcccc gcccgaccgc atcgacatct
300

4939

```
tcgggcgcac ggtgagcaag cgcagcagcc tggacgagaa gcagaagcga gaggaggagg
360
agaagaaagc ggagttcgag cggcagcgaa aaattcgaca gcaagaaata gaagaaaaac
420
tcatcgagga agaaacagca cgaagagtag aagaattggt agcaanaaag ggtggaggaa
480
gaactggaga aaaggaagga tgaaattgaa cgagaagttc tccgaagggt ggaggaagcc
540
aaacgcatca tggaaaagca gttgctcgaa gaactcgag
579


<210> 5774
<211> 104
<212> PRT
<213> Homo sapiens


<400> 5774
Xaa Arg Val Arg Gly Leu Arg Arg Ala Val Arg Ala Ser Pro Gly Arg
 1               5                  10                  15
Met Gly Arg Ser Arg Ser Arg Ser Ser Ser Arg Ser Lys His Thr Lys
            20                  25                  30
Ser Ser Lys His Asn Lys Lys Arg Ser Arg Ser Arg Ser Arg Ser Arg
         35                  40                  45
Asp Lys Glu Arg Val Arg Lys Arg Ser Lys Ser Arg Glu Ser Lys Arg
     50                  55                  60
Asn Arg Arg Arg Glu Ser Arg Ser Arg Ser Arg Ser Thr Asn Thr Ala
65                  70                  75                  80
Val Ser Arg Arg Glu Arg Asp Arg Glu Arg Pro Arg Pro Arg Pro Thr
                85                  90                  95
Ala Ser Thr Ser Ser Gly Ala Arg
                100


<210> 5775
<211> 1441
<212> DNA
<213> Homo sapiens


<400> 5775
cgtcctcctc ccgctcggaa ggtcccaagg tgagacacct tcagcaggtc tcagggaaga
60
tggcagccct aggggacatt caggagtccc cttctgtccc gtccctgtc agtctctcat
120
caccggggac acctggaacc cagcaccacg agcctcagct tcacctccat gggcatcaac
180
atgcctaagg tgctctccca gccgtccgac ctggatctcc aagacgtaga ggaagtggag
240
atcggcagag acaccttctg gcccgactcc gagcccaagc cggagcaggc tccacgctct
300
cctggctctc aggcccctga cgagggggcg ggcggggcgc tgcgcacctc cgtgaggagc
360
cttccccgca gggcccggtg cagcgccggc ttcgggcctg aatccagcgc ggagcggccg
420
gcgggccagc cgcctggggc cgtcccttgc gcccagccgc ggggcgcctg gcgcgtgacg
480
```

```
ctcgtgcagc aagcagcggc cgggccccgag ggtgcgcccg agcgggctgc cgagctggga
540
gtcaacttcg gtcggagccg gcagggcagc gcgcggggga ccaagccgca caggtgcgag
600
gcctgcggca agagtttcaa gtataactcg ctgctcctga agcaccagcg catccacacg
660
ggcgagaagc cctacgcctg ccacgagtgc ggcaagtgtt tcgccgcagc ttcgcgcttc
720
atccagcacc agcgcatcca cagcggcgag aagccctacg cctgccccga gtgcagcaag
780
accttcacgc gcagctccaa cctcatcaag caccaggtca tccacagcgg cgagcggccc
840
ttcgcctgcg gcgactgcgg caaactgttc cgccgcagct tcgcgctcct ggagcacgcg
900
cgcgtgcaca gcggcgagaa gccctacgag tgctccgact gcggcaagtg cttccgcggc
960
cgctcgcact tcttccggca caaccgcaca cacacgggcg agaagcccta ccactgcctc
1020
gactgcggca agagcttcag ccacagctcg cacctcatca gcaccagcg cacccaccgt
1080
ggcgtgcggc cctacgcctg cccgttgtgt ggcaagagct tcagccggcg ctccaacctg
1140
caccggcacg agaagatcca caccaccggg cccaaggccc tggccatgct gatgctgggg
1200
gcggcggcgg cggggggctct ggccacaccc ccacccgctc ccacctagga ggccaggaaa
1260
gggggagcgg ggcgcccagg gccactggaa cagccccact ggagtcaagg ctccgaggga
1320
ggagagaggg gctcgggaag ggagctgggg cggtgagggc atggggtgag gcatggcgat
1380
ggggggaggc gagggcgaga aagggcaggc actctgcgaa ttaaaggcct tggacttgaa
1440
a
1441
```

```
<210> 5776
<211> 359
<212> PRT
<213> Homo sapiens
```

```
<400> 5776
Met Gly Ile Asn Met Pro Lys Val Leu Ser Gln Pro Ser Asp Leu Asp
1               5                   10                  15
Leu Gln Asp Val Glu Glu Val Glu Ile Gly Arg Asp Thr Phe Trp Pro
            20                  25                  30
Asp Ser Glu Pro Lys Pro Glu Gln Ala Pro Arg Ser Pro Gly Ser Gln
        35                  40                  45
Ala Pro Asp Glu Gly Ala Gly Gly Ala Leu Arg Thr Ser Val Arg Ser
    50                  55                  60
Leu Pro Arg Arg Ala Arg Cys Ser Ala Gly Phe Gly Pro Glu Ser Ser
65                  70                  75                  80
Ala Glu Arg Pro Ala Gly Gln Pro Pro Gly Ala Val Pro Cys Ala Gln
                85                  90                  95
Pro Arg Gly Ala Trp Arg Val Thr Leu Val Gln Gln Ala Ala Ala Gly
```

```
                  100                    105                    110
Pro Glu Gly Ala Pro Glu Arg Ala Ala Glu Leu Gly Val Asn Phe Gly
             115                    120                    125
Arg Ser Arg Gln Gly Ser Ala Arg Gly Thr Lys Pro His Arg Cys Glu
        130                    135                    140
Ala Cys Gly Lys Ser Phe Lys Tyr Asn Ser Leu Leu Leu Lys His Gln
145                    150                    155                    160
Arg Ile His Thr Gly Glu Lys Pro Tyr Ala Cys His Glu Cys Gly Lys
                  165                    170                    175
Cys Phe Ala Ala Ala Ser Arg Phe Ile Gln His Gln Arg Ile His Ser
             180                    185                    190
Gly Glu Lys Pro Tyr Ala Cys Pro Glu Cys Ser Lys Thr Phe Thr Arg
        195                    200                    205
Ser Ser Asn Leu Ile Lys His Gln Val Ile His Ser Gly Glu Arg Pro
   210                    215                    220
Phe Ala Cys Gly Asp Cys Gly Lys Leu Phe Arg Arg Ser Phe Ala Leu
225                    230                    235                    240
Leu Glu His Ala Arg Val His Ser Gly Glu Lys Pro Tyr Glu Cys Ser
                  245                    250                    255
Asp Cys Gly Lys Cys Phe Arg Gly Arg Ser His Phe Phe Arg His Asn
             260                    265                    270
Arg Thr His Thr Gly Glu Lys Pro Tyr His Cys Leu Asp Cys Gly Lys
        275                    280                    285
Ser Phe Ser His Ser Ser His Leu Ile Lys His Gln Arg Thr His Arg
   290                    295                    300
Gly Val Arg Pro Tyr Ala Cys Pro Leu Cys Gly Lys Ser Phe Ser Arg
305                    310                    315                    320
Arg Ser Asn Leu His Arg His Glu Lys Ile His Thr Thr Gly Pro Lys
                  325                    330                    335
Ala Leu Ala Met Leu Met Leu Gly Ala Ala Ala Ala Gly Ala Leu Ala
             340                    345                    350
Thr Pro Pro Pro Ala Pro Thr
             355
```

```
<210> 5777
<211> 1431
<212> DNA
<213> Homo sapiens

<400> 5777
ggaaggctcg cctgggagct catacctggc tggggccgag gattggctgt tccggggcta
60
gggagcgctt tctcccggga accgcggctg tgacccaagt ggcccggacc agtttggggc
120
tgcgtgcggc ctgcctcaag caaccaggta cgtaggtcgg cggcccagct cggcgctgcg
180
gtgggagccg gagggcgaca gtcagagccg gggtgccagc gggacgcgac cgccagatcc
240
acttaggacc ccgtcgttct gcgaagcggc cacgtctgag tcccggggcc tcctcgtgct
300
gcagatgtcg ccttaggacc tcggccagga taccctctgc catgctcttg tgctgcccgt
360
gatcaccgac tggcccttgt aagcaccttc gcagcaggaa gcccagagct gcgcctgccc
420
```

```
tttctgaagg ctgtggaaga ggttggagtg ggcgcatctt agcttgcccc atccccattt
480
gaggtctgtc ggagctgccc ttcagtgtga gcatccacaa tgggtacccc agcctcggtg
540
gtcagtgagc cacccccttg gcaggccccg attgaggccc ggggccgcaa gcaggcctcg
600
gccaacatct tccaggacgc cgagctgctg cagatccaag ccctgtttca acgcagcggg
660
gaccagctgg ccgaggaacg ggcacagatc atctgggaat gtgcagggga ccaccgtgtg
720
gctgaggccc tcaagaggct gcgcaggaag aggcccccaa ggcagaaacc ccctgggcca
780
ctcgctacac cactgcagcc gcctcagaat cctggagccc cactctgcac tggccaaccc
840
acagagtgcc acagagacag cctccagtga gcagtatctg cactctagga agaaaagtgc
900
caggatccgc cggaactgga ggaagtcagg ccccacaagc tacctccacc agatcagaca
960
ctgatccagg gaaagagcca ggaatggcag tgtcttccct cttgccaaaa ggcctgggga
1020
ggtgaaggaa gagagacttt aggcaagcag cccaaagggg taaatgaaag caagaggctg
1080
ctgccactga cctgctccat tcagaacaag actggatgct tctgttgagc tctccattat
1140
gtgggaccca ttcctcacca aaatgaggag agacagtgac tgttcctgcc acagtccttc
1200
ccagtctaac actattcctg ggctgcatga tattcccctg ggagcaaagt gacaggcact
1260
tagatgcagc atttcaccac tcatgctact aatcatctac ctgctactac tgtaaaccat
1320
ggttccagca gcctgttcca caccccaca ccatcaggat agcacaggga aactgtagtt
1380
taagtggcaa ataaaaacat ttgcatcaaa aaaaaaaaa aaaaaaaaa a
1431


<210> 5778
<211> 164
<212> PRT
<213> Homo sapiens

<400> 5778
Met Leu Thr Leu Lys Gly Ser Ser Asp Arg Pro Gln Met Gly Met Gly
 1               5                   10                  15
Gln Ala Lys Met Arg Pro Leu Gln Pro Leu Pro Gln Pro Ser Glu Arg
                20                  25                  30
Ala Gly Ala Ala Leu Gly Phe Leu Leu Arg Arg Cys Leu Gln Gly Pro
            35                  40                  45
Val Gly Asp His Gly Gln His Lys Ser Met Ala Glu Gly Ile Leu Ala
        50                  55                  60
Glu Val Leu Arg Arg His Leu Gln His Glu Glu Ala Pro Gly Leu Arg
65                  70                  75                  80
Arg Gly Arg Phe Ala Glu Arg Arg Gly Pro Lys Trp Ile Trp Arg Ser
                85                  90                  95
Arg Pro Ala Gly Thr Pro Ala Leu Thr Val Ala Leu Arg Leu Pro Pro
```

4943

```
                   100                 105                 110
Gln Arg Arg Ala Gly Pro Pro Thr Tyr Val Pro Gly Cys Leu Arg Gln
          115                 120                 125
Ala Ala Arg Ser Pro Lys Leu Val Arg Ala Thr Trp Val Thr Ala Ala
      130                 135                 140
Val Pro Gly Arg Lys Arg Ser Leu Ala Pro Glu Gln Pro Ile Leu Gly
145                 150                 155                 160
Pro Ser Gln Val
```

<210> 5779
<211> 371
<212> DNA
<213> Homo sapiens

<400> 5779
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ctcttgagac gtgtggaggg aaggaaggga agaacccatg atctaccccca gaggcatgga
60
cgggagagag gggtgatttc agccttgtct ggcatccctt gtgtctgcnt gagggtgtgt
120
gcacacggga atgtgtgcgg gtgtgtgtgc gtgcatgcag ctgtgtgtgg atgtgcantc
180
gtgtgtgggt gtgtaggtgt gtgtgggtgt gtgcaccagt gcaggtgtgc atgggtgtgt
240
acaggtgggt gtgtgtatgt gtgtgggggt gtgcccatct gtgcaggtgt gtgggtgtgc
300
agggtcncat gcctgtgtgt gggtgtgncc ccgtgtgtac ccctgtggag gtgtgtgggt
360
gtgtgcagtg t
371
```

<210> 5780
<211> 123
<212> PRT
<213> Homo sapiens

<400> 5780
```
Leu Leu Arg Arg Val Glu Gly Arg Lys Gly Arg Thr His Asp Leu Pro
1               5                 10                  15
Gln Arg His Gly Arg Glu Arg Gly Val Ile Ser Ala Leu Ser Gly Ile
            20                  25                  30
Pro Cys Val Cys Xaa Arg Val Cys Ala His Gly Asn Val Cys Gly Cys
        35                  40                  45
Val Cys Val His Ala Ala Val Cys Gly Cys Ala Xaa Val Cys Gly Cys
    50                  55                  60
Val Gly Val Cys Gly Cys Val His Gln Cys Arg Cys Ala Trp Val Cys
65                  70                  75                  80
Thr Gly Gly Cys Val Tyr Val Cys Gly Gly Val Pro Ile Cys Ala Gly
                85                  90                  95
Val Trp Val Cys Arg Val Xaa Cys Leu Cys Val Gly Val Xaa Pro Cys
            100                 105                 110
Val Pro Leu Trp Arg Cys Val Gly Val Cys Ser
            115                 120
```

```
<210> 5781
<211> 845
<212> DNA
<213> Homo sapiens

<400> 5781
ggggttccgt gccccaaaat cgagggagcc gtgggcttgg ggtccggatc gcggccgcgg
60
ggcgctggcg tgcggtgtca tttctgcggt gtaaatgctc ccaccttggc cgatttcaag
120
ccaccaggtg aggatggcac tgcaacatct tccactgagg ctccagctgc cctctcaggt
180
acatcagggc ctggancgtc ctctcctcca ggagggccag gactcggccc cctgccagcc
240
cccgaagcat tgcagccagg agtgcagcgt gggggccctg caggccatgg ccaggcccca
300
gcgccaccag caccaggtca ggctggaagc cataggccag gggcagcacc aagcccaaga
360
tgcagctcag gaaaccaccg gtcatcactg gcagtggcgt ggagacatgg aacatggata
420
gggcagccgc ctccttgccc ctgatgttca gccacagact cctcccgtca tgggcgaggt
480
ctggaggccg gtccagctgt cccagggcca cgcacagcag cctggaagaa gagctggcct
540
caggacaggt gttcatgttg tccagagtcc attcccagaa ctctctgtgc ttggccagcc
600
aggatagggg tgcccacagg tcctgccgtc agaggctcag gatggccaag tgaggcttac
660
ctctgggctc cgtgggacag gcctctccga acagccacat ccagggtggc tgctgcagca
720
gaggctggag tggctgctat accactgttc acctgtggga tgaataaaca gtggagaatg
780
aggcaccaac caactcccaa gccaggtaaa cagatccaca gttcccttca ttcggtgtgt
840
ctctg
845


<210> 5782
<211> 147
<212> PRT
<213> Homo sapiens

<400> 5782
Gly Val Pro Cys Pro Lys Ile Glu Gly Ala Val Gly Leu Gly Ser Gly
 1               5                  10                  15
Ser Arg Pro Arg Gly Ala Gly Val Arg Cys His Phe Cys Gly Val Asn
            20                  25                  30
Ala Pro Thr Leu Ala Asp Phe Lys Pro Pro Gly Glu Asp Gly Thr Ala
         35                  40                  45
Thr Ser Ser Thr Glu Ala Pro Ala Ala Leu Ser Gly Thr Ser Gly Pro
     50                  55                  60
Gly Xaa Ser Ser Pro Pro Gly Gly Pro Gly Leu Gly Pro Leu Pro Ala
65                  70                  75                  80
Pro Glu Ala Leu Gln Pro Gly Val Gln Arg Gly Gly Pro Ala Gly His
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                       85                    90                    95
Gly Gln Ala Pro Ala Pro Pro Ala Pro Gly Gln Ala Gly Ser His Arg
               100                   105                   110
Pro Gly Ala Ala Pro Ser Pro Arg Cys Ser Ser Gly Asn His Arg Ser
           115                   120                   125
Ser Leu Ala Val Ala Trp Arg His Gly Thr Trp Ile Gly Gln Pro Pro
       130                   135                   140
Pro Cys Pro
145


<210> 5783
<211> 1839
<212> DNA
<213> Homo sapiens


<400> 5783
gtgggagcgg ccatggaccg cttcgtttgg accagcggcc tcctggagat caacgagacc
60
ctggtgatcc agcagcgcgg ggtgcgaatc tacgatggcg aggagaagat aaaatttgat
120
gctgggactc tccttcttag tacacaccga ctgatttgga gagatcagaa aaatcatgag
180
tgttgcatgg ccattctcct ttcccaaatt gtgttcattg aagaacaggc ggctggaatt
240
gggaagagtg ccaaaatagt ggttcatctt cacccagctc ctcctaacaa agaacctggc
300
ccattccaga gtagtaagaa ctcctacatc aaactctcct tcaaagaaca tggccagatt
360
gagttttaca ggcgtttatc agaggaaatg acacaaagaa gatgggagaa tatgccagtt
420
tcccagtcat tacaaacaaa tagaggaccc cagccaggaa gaataagggc tgtaggaatt
480
gtaggtattg aaaggaaact ggaagaaaaa agaaaagaaa ctgacaaaaa catttctgag
540
gcctttgaag acctcagcaa actaatgatc aaggctaagg aaatggtgga attatcaaaa
600
tcaattgcta ataaaattaa agacaaacaa ggtgacatca cagaagatga gaccatcagg
660
tttaaatcct acttgctgag catgggaata gctaacccag ttaccagaga aacctacggc
720
tcaggcacac agtaccacat gcagctggcc aaacaactgg ctggaatatt gcaggtgcct
780
ttagaggaac gagggggaat aatgtcactc acggaggtgt actgcttagt aaaccgagct
840
cgaggaatgg aattgctctc accagaagat ttagtgaatg cgtgcaagat gctggaagca
900
ctgaaattac ctctcaggct ccgtgtgttt gacagtggcg tcatggtaat tgagcttcag
960
tctcacaagg aagaggaaat ggtggcctcg gccctggaga cagtttcaga aaagggatcc
1020
ctaacatcag aaagagtttgc taagcttgtg ggaatgtctg tcctcctagc caaagaaagg
1080
ttgctgcttg cagagaagat gggccatctt tgccgtgatg actcagtgga aggcctgcgt
1140
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ttttacccaa atttatttat gacacagagc taagggtttt gtatttaaaa tccttttttgt
1200
ccatatgctt gcgtcatgta gaggttgtat gacattgagc taagagataa accccgatca
1260
attgagaatt tattggaact tcacagtgca atgtaaatct cttttaattt ctccccaaat
1320
atggtccagg aaatttattt agtatacgca taggaaaatt cagaaaagtg aatgccaata
1380
tgaatttaaa atcatgctat agtgcagaac cctcagagtt taacttggaa tatagtggat
1440
tttaacttga tcctcaaatc taatcatttt ataagaagg gaatttagtt ttgcagagaa
1500
taaaaagaga agttgcatgt tcagacaggt tagattatta ttttggtgta actgaaattc
1560
actgattgca catgacaatg ttgggacaaa atatactgca gcatgctata tgaggctcct
1620
ccccagggct tttagaagca gtcatagaca tgtcttcaac ataccaaata aaataccttt
1680
aaaaatgaaa taattttatt tgacacatta tttatatata ttctatctag gtttctcttt
1740
gttttttta aagtgatgat ttcatggact gggcatttaa aagaaatggc aactgtggtc
1800
catttttggt ttttccaaat gctgtggaat ttttggaaa
1839

<210> 5784
<211> 386
<212> PRT
<213> Homo sapiens

<400> 5784
Met Asp Arg Phe Val Trp Thr Ser Gly Leu Leu Glu Ile Asn Glu Thr
1   5   10   15
Leu Val Ile Gln Gln Arg Gly Val Arg Ile Tyr Asp Gly Glu Glu Lys
            20   25   30
Ile Lys Phe Asp Ala Gly Thr Leu Leu Leu Ser Thr His Arg Leu Ile
        35   40   45
Trp Arg Asp Gln Lys Asn His Glu Cys Cys Met Ala Ile Leu Leu Ser
    50   55   60
Gln Ile Val Phe Ile Glu Glu Gln Ala Ala Gly Ile Gly Lys Ser Ala
65   70   75   80
Lys Ile Val Val His Leu His Pro Ala Pro Pro Asn Lys Glu Pro Gly
                85   90   95
Pro Phe Gln Ser Ser Lys Asn Ser Tyr Ile Lys Leu Ser Phe Lys Glu
            100   105   110
His Gly Gln Ile Glu Phe Tyr Arg Arg Leu Ser Glu Glu Met Thr Gln
        115   120   125
Arg Arg Trp Glu Asn Met Pro Val Ser Gln Ser Leu Gln Thr Asn Arg
    130   135   140
Gly Pro Gln Pro Gly Arg Ile Arg Ala Val Gly Ile Val Gly Ile Glu
145   150   155   160
Arg Lys Leu Glu Glu Lys Arg Lys Glu Thr Asp Lys Asn Ile Ser Glu
                165   170   175
Ala Phe Glu Asp Leu Ser Lys Leu Met Ile Lys Ala Lys Glu Met Val

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              180                   185                   190
Glu Leu Ser Lys Ser Ile Ala Asn Lys Ile Lys Asp Lys Gln Gly Asp
          195                   200                   205
Ile Thr Glu Asp Glu Thr Ile Arg Phe Lys Ser Tyr Leu Leu Ser Met
          210                   215                   220
Gly Ile Ala Asn Pro Val Thr Arg Glu Thr Tyr Gly Ser Gly Thr Gln
225                   230                   235                   240
Tyr His Met Gln Leu Ala Lys Gln Leu Ala Gly Ile Leu Gln Val Pro
                  245                   250                   255
Leu Glu Glu Arg Gly Gly Ile Met Ser Leu Thr Glu Val Tyr Cys Leu
                  260                   265                   270
Val Asn Arg Ala Arg Gly Met Glu Leu Leu Ser Pro Glu Asp Leu Val
              275                   280                   285
Asn Ala Cys Lys Met Leu Glu Ala Leu Lys Leu Pro Leu Arg Leu Arg
          290                   295                   300
Val Phe Asp Ser Gly Val Met Val Ile Glu Leu Gln Ser His Lys Glu
305                   310                   315                   320
Glu Glu Met Val Ala Ser Ala Leu Glu Thr Val Ser Glu Lys Gly Ser
                  325                   330                   335
Leu Thr Ser Glu Glu Phe Ala Lys Leu Val Gly Met Ser Val Leu Leu
              340                   345                   350
Ala Lys Glu Arg Leu Leu Leu Ala Glu Lys Met Gly His Leu Cys Arg
          355                   360                   365
Asp Asp Ser Val Glu Gly Leu Arg Phe Tyr Pro Asn Leu Phe Met Thr
          370                   375                   380
Gln Ser
385


<210> 5785
<211> 785
<212> DNA
<213> Homo sapiens

<400> 5785
ttttttttt tttttgacagt ttctccactt tattagcctg gagctcctcc ctgccagccc
60
caggggctgg tcgctggtcc ctgggcacag tgagcagggc tgaggtcaga cgggttcggc
120
ccttggccat ggcagcttgg ttgggacagc cgggccaagg gaaaaaaagg tgcaaaagtc
180
caaatgctgg cacttcaggt gtggccggca cccagccagg cgcagtgggt gggcagggcg
240
ccatgcttct ctcctggcga caggtcggcc gtgtagcagc gcccctcccc agcagccact
300
aggaacagct ggtgattctc gccaggaact gctgcgccca ccactcgtct aggtcaatgg
360
gcacaaagtt ctgcagccgg ggattggggg tcctctccac gtactgcaca ggccttggcc
420
cgccctcacc ggctgggcca ccatccagct gctgttgcac ctgctgccag gcttcggaca
480
caaagcggac attctccttg tgggccagtg tgtaggtctc ctgggtcccc tggagggatg
540
gggacttgga ggggtcccgc cggcgattca cacgattgaa cacaagcctt ggccctgcac
600
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4948

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tcgacagggg ccagggtccc agcggctgcg cgagagctgc gcccgctggg gctgcaaggt
660
cggcggcgcg ggctgccggc ttttcaggag ctcctggagc tggcccttca cctgctgctg
720
cgtgagacct gtgcggctgc gcgaccaatt tgctgggccc gttgatgatg gtgtacatgg
780
cgcgc
785


<210> 5786
<211> 159
<212> PRT
<213> Homo sapiens

<400> 5786
Met Tyr Thr Ile Ile Asn Gly Pro Ser Lys Leu Val Ala Gln Pro His
 1               5                  10                  15
Arg Ser His Ala Ala Ala Gly Glu Gly Pro Ala Pro Gly Ala Pro Glu
            20                  25                  30
Lys Pro Ala Ala Arg Ala Ala Asp Leu Ala Ala Pro Ala Gly Ala Ala
            35                  40                  45
Leu Ala Gln Pro Leu Gly Pro Trp Pro Leu Ser Ser Ala Gly Pro Arg
    50                  55                  60
Leu Val Phe Asn Arg Val Asn Arg Arg Arg Asp Pro Ser Lys Ser Pro
65                  70                  75                  80
Ser Leu Gln Gly Thr Gln Glu Thr Tyr Thr Leu Ala His Lys Glu Asn
                85                  90                  95
Val Arg Phe Val Ser Glu Ala Trp Gln Gln Val Gln Gln Gln Leu Asp
            100                 105                 110
Gly Gly Pro Ala Gly Glu Gly Gly Pro Arg Pro Val Gln Tyr Val Glu
        115                 120                 125
Arg Thr Pro Asn Pro Arg Leu Gln Asn Phe Val Pro Ile Asp Leu Asp
    130                 135                 140
Glu Trp Trp Ala Gln Gln Phe Leu Ala Arg Ile Thr Ser Cys Ser
145                 150                 155


<210> 5787
<211> 1683
<212> DNA
<213> Homo sapiens

<400> 5787
nnngctccag tccagtcgtg cagnggngng ntctttcctc cgctcaagtc caggaacggt
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tcccgggctc ccaccgtctc ggnangccca cgngcctggg ccaaagtccg cgaacggaag
120
ccgnggcgag gaggattctg ggagttggag gccgaggctg cgaccngcag gcgcaaacct
180
gcccctgggg tgagggctgt aagtggcgcg attcgcggca cgcccccgat ggaacctcct
240
ggtcctgtga gggggcccctt gcaagattcc agctggtatg agccttctgc agagctagtg
300
cagactagga tggctgtatc actaacagca gctgaaactc tggcccttca gggtacacag
360
```

ggacaagaga agatgatgat gatgggacca aaggaagagg aacagtcttg tgagtatgag
420
accaggctac ctgggaacca ctctaccagt caagagatct tccgccaacg cttcaggcat
480
ctccgctacc aggagactcc tggtccccgg gaggccttga gccaactacg agtactctgc
540
tgtgagtggc tgaggccaga gaaacacacg aaggagcaga tcctggagtt cctggtgctg
600
gaacaattct tgaccatcct gcctgaggag ctccaatcct gggtgcgggg acatcaccct
660
aagagtggag aggaggctgt gactgtgctg gaggatttag agaaaggact tgaaccagag
720
ccgcaggtcc caggccctgc acatggacct gcacaggaag agccatggga gaagaaggaa
780
tctctgggag cagcccagga agcactgagc atccagctcc agcctaagga gacccagcct
840
ttcccaaaga gtgaacaggt atatttacat tttctgtcag ttgttacaga agatggccca
900
gagcccaagg acaaaggatc attgccacaa ccacccatta ctgaagtgga atcacaggtg
960
ttctcagaaa aacttgctac tgacacctct acatttgaag ctacctctga gggtacctta
1020
gaactgcagc agagaaatcc caaagcggag agactgaggt ggtcccctgc ccaggaggaa
1080
agtttcaggc agatggttgt catccataag gaaattccca cagggaagaa agaccatgaa
1140
tgtagtgaat gtggtaaaac cttcattat aactcacatc ttgttgtcca ccagagagtt
1200
cattctggag agaaaccta taagtgtagt gactgtggga aactttcaa acagagctca
1260
aacctcggtc agcatcagag aattcataca ggagagaaac ccttcgaatg taatgaatgt
1320
gggaaggcct tcagatgggg tgctcatctt gttcagcatc agaggattca ctcaggagag
1380
aagccctatg agtgtaatga gtgtgggaag gcctttagtc aaagctcata tctaagtcag
1440
catcggagaa ttcacagtgg agagaaacct tttatatgta agaatgtgg gaaagcttat
1500
ggatggtgct cagagctcat tagacatcgg agagttcatg ccagaaaaga gccttcccat
1560
tgaattgaag gggagaacgt ctccagacag aattctacat cggtctaatc tactttagga
1620
ctggatccca taaaagttat aagttcctta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1680
aaa
1683

<210> 5788
<211> 417
<212> PRT
<213> Homo sapiens

<400> 5788
Met Ala Val Ser Leu Thr Ala Ala Glu Thr Leu Ala Leu Gln Gly Thr

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1                   5                        10                        15
Gln Gly Gln Glu Lys Met Met Met Met Gly Pro Lys Glu Glu Glu Gln
                20                        25                        30
Ser Cys Glu Tyr Glu Thr Arg Leu Pro Gly Asn His Ser Thr Ser Gln
                35                        40                        45
Glu Ile Phe Arg Gln Arg Phe Arg His Leu Arg Tyr Gln Glu Thr Pro
        50                        55                        60
Gly Pro Arg Glu Ala Leu Ser Gln Leu Arg Val Leu Cys Cys Glu Trp
65                        70                        75                        80
Leu Arg Pro Glu Lys His Thr Lys Glu Gln Ile Leu Glu Phe Leu Val
                        85                        90                        95
Leu Glu Gln Phe Leu Thr Ile Leu Pro Glu Glu Leu Gln Ser Trp Val
                100                        105                        110
Arg Gly His His Pro Lys Ser Gly Glu Glu Ala Val Thr Val Leu Glu
                115                        120                        125
Asp Leu Glu Lys Gly Leu Glu Pro Glu Pro Gln Val Pro Gly Pro Ala
        130                        135                        140
His Gly Pro Ala Gln Glu Glu Pro Trp Glu Lys Lys Glu Ser Leu Gly
145                        150                        155                        160
Ala Ala Gln Glu Ala Leu Ser Ile Gln Leu Gln Pro Lys Glu Thr Gln
                        165                        170                        175
Pro Phe Pro Lys Ser Glu Gln Val Tyr Leu His Phe Leu Ser Val Val
                180                        185                        190
Thr Glu Asp Gly Pro Glu Pro Lys Asp Lys Gly Ser Leu Pro Gln Pro
                195                        200                        205
Pro Ile Thr Glu Val Glu Ser Gln Val Phe Ser Glu Lys Leu Ala Thr
        210                        215                        220
Asp Thr Ser Thr Phe Glu Ala Thr Ser Glu Gly Thr Leu Glu Leu Gln
225                        230                        235                        240
Gln Arg Asn Pro Lys Ala Glu Arg Leu Arg Trp Ser Pro Ala Gln Glu
                        245                        250                        255
Glu Ser Phe Arg Gln Met Val Val Ile His Lys Glu Ile Pro Thr Gly
                260                        265                        270
Lys Lys Asp His Glu Cys Ser Glu Cys Gly Lys Thr Phe Ile Tyr Asn
                275                        280                        285
Ser His Leu Val Val His Gln Arg Val His Ser Gly Glu Lys Pro Tyr
        290                        295                        300
Lys Cys Ser Asp Cys Gly Lys Thr Phe Lys Gln Ser Ser Asn Leu Gly
305                        310                        315                        320
Gln His Gln Arg Ile His Thr Gly Glu Lys Pro Phe Glu Cys Asn Glu
                        325                        330                        335
Cys Gly Lys Ala Phe Arg Trp Gly Ala His Leu Val Gln His Gln Arg
                340                        345                        350
Ile His Ser Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly Lys Ala
        355                        360                        365
Phe Ser Gln Ser Ser Tyr Leu Ser Gln His Arg Arg Ile His Ser Gly
        370                        375                        380
Glu Lys Pro Phe Ile Cys Lys Glu Cys Gly Lys Ala Tyr Gly Trp Cys
385                        390                        395                        400
Ser Glu Leu Ile Arg His Arg Arg Val His Ala Arg Lys Glu Pro Ser
                        405                        410                        415
His
```

<210> 5789
<211> 1201
<212> DNA
<213> Homo sapiens

<400> 5789
nngcggccgc agcctgagcc agggccccct ccctcgtcag gaccggggca gcaagcaggc
60
cgggggcagg tccgggcacc caccatgcga ggcgagctct ggctcctggt gctggtgctc
120
agggaggctg cccgggcgct gagcccccag cccggagcag gtcacgatga gggcccaggc
180
tctggatggg ctgccaaagg gaccgtgcgg ggctggaacc ggagagcccg agagagccct
240
gggcatgtgt cagagccgga caggacccag ctgagccagg acctgggtgg gggcaccctg
300
gccatggaca cgctgccaga taacaggacc agggtggtgg aggacaacca cagctattat
360
gtgtcccgtc tctatggccc cagcgagccc cacagccggg aactgtgggt agatgtggcc
420
gaggccaacc ggagccaagt gaagatccac acaatactct ccaacaccca ccggcaggct
480
tcgagagtgg tcttgtcctt tgatttccct ttctacgggc atcctctgcg gcagatcacc
540
atagcaactg gaggcttcat cttcatgggg gacgtgatcc atcggatgct cacagctact
600
cagtatgtgg cgccctgat ggccaacttc aaccctggct actccgacaa ctccacagtt
660
gtttactttg acaatgggac agtctttgtg gttcagtggg accacgttta tctccaaggc
720
tgggaagaca agggcagttt caccttccag gcagctctgc accatgacgg ccgcattgtc
780
tttgcctata aagagatccc tatgtctgtc ccggaaatca gctcctccca gcatcctgtc
840
aaaaccggcc tatcggatgc cttcatgatt ctcaatccat ccccggatgt gccagaatct
900
cggcgaagga gcatctttga ataccaccgc atagagctgg accccagcaa ggtcaccagc
960
atgtcggccg tggagttcac cccattgccg acctgcctgc agcataggag ctgtgacgcc
1020
tgcatgtcct cagacctgac cttcaactgc agctggtgcc atgtcctcca gagatgctcc
1080
agtggctttg accgctatcg ccaggagtgg atggactatg ctgtgcaca ggaggcagag
1140
ggcaggatgt gcgaggactt ccaggatgag gaccacgact cagcctcccc tgacactttc
1200
t
1201

<210> 5790
<211> 400
<212> PRT
<213> Homo sapiens

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<400> 5790
Xaa Arg Pro Gln Pro Glu Pro Gly Pro Pro Pro Ser Ser Gly Pro Gly
1               5               10              15
Gln Gln Ala Gly Arg Gly Gln Val Arg Ala Pro Thr Met Arg Gly Glu
            20              25              30
Leu Trp Leu Leu Val Leu Val Leu Arg Glu Ala Ala Arg Ala Leu Ser
        35              40              45
Pro Gln Pro Gly Ala Gly His Asp Glu Gly Pro Gly Ser Gly Trp Ala
    50              55              60
Ala Lys Gly Thr Val Arg Gly Trp Asn Arg Arg Ala Arg Glu Ser Pro
65              70              75              80
Gly His Val Ser Glu Pro Asp Arg Thr Gln Leu Ser Gln Asp Leu Gly
            85              90              95
Gly Gly Thr Leu Ala Met Asp Thr Leu Pro Asp Asn Arg Thr Arg Val
        100             105             110
Val Glu Asp Asn His Ser Tyr Tyr Val Ser Arg Leu Tyr Gly Pro Ser
        115             120             125
Glu Pro His Ser Arg Glu Leu Trp Val Asp Val Ala Glu Ala Asn Arg
    130             135             140
Ser Gln Val Lys Ile His Thr Ile Leu Ser Asn Thr His Arg Gln Ala
145             150             155             160
Ser Arg Val Val Leu Ser Phe Asp Phe Pro Phe Tyr Gly His Pro Leu
            165             170             175
Arg Gln Ile Thr Ile Ala Thr Gly Gly Phe Ile Phe Met Gly Asp Val
        180             185             190
Ile His Arg Met Leu Thr Ala Thr Gln Tyr Val Ala Pro Leu Met Ala
        195             200             205
Asn Phe Asn Pro Gly Tyr Ser Asp Asn Ser Thr Val Val Tyr Phe Asp
    210             215             220
Asn Gly Thr Val Phe Val Val Gln Trp Asp His Val Tyr Leu Gln Gly
225             230             235             240
Trp Glu Asp Lys Gly Ser Phe Thr Phe Gln Ala Ala Leu His His Asp
            245             250             255
Gly Arg Ile Val Phe Ala Tyr Lys Glu Ile Pro Met Ser Val Pro Glu
        260             265             270
Ile Ser Ser Ser Gln His Pro Val Lys Thr Gly Leu Ser Asp Ala Phe
        275             280             285
Met Ile Leu Asn Pro Ser Pro Asp Val Pro Glu Ser Arg Arg Arg Ser
    290             295             300
Ile Phe Glu Tyr His Arg Ile Glu Leu Asp Pro Ser Lys Val Thr Ser
305             310             315             320
Met Ser Ala Val Glu Phe Thr Pro Leu Pro Thr Cys Leu Gln His Arg
            325             330             335
Ser Cys Asp Ala Cys Met Ser Ser Asp Leu Thr Phe Asn Cys Ser Trp
            340             345             350
Cys His Val Leu Gln Arg Cys Ser Ser Gly Phe Asp Arg Tyr Arg Gln
        355             360             365
Glu Trp Met Asp Tyr Gly Cys Ala Gln Glu Ala Glu Gly Arg Met Cys
    370             375             380
Glu Asp Phe Gln Asp Glu Asp His Asp Ser Ala Ser Pro Asp Thr Phe
385             390             395             400

<210> 5791
<211> 3285
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<212> DNA
<213> Homo sapiens

<400> 5791
ntgtacattg tataaactga gtagcattga actgcatttt agaagtatgt catcagaaac
60
aaatcacatt atggaaagga tatacaaatg ccaagtgata tgactctttt ggcatggtgg
120
tagcatggtc cattcagctt tcagaatctt tcggaggctc tagtttggtg cctagtacta
180
gttatttttg ttagaacaat ctctcaaaat ttagataatt ttccagttgt atgtctgtca
240
cttttaactc taaagcgtaa gaatcatggt aaccctctcc tcccccgcc gtccccgcgg
300
ctccatcctc cgccgccgcc cgagcagctg cggggccgcc accgccgccg ccgccgttgc
360
aggctgagtc atcactagag agtgggaagg gcagcagcag cagagaatcc aaaccctaaa
420
gctgatatca caaagtacca tttctccaag ttgggggctc agaggggagt catcatgagc
480
gatgttacca ttgtgaaaga aggttgggtt cagaagaggg gagaatatat aaaaaactgg
540
aggccaagat acttcctttt gaagacagat ggctcattca taggatataa agagaaacct
600
caagatgtgg atttacctta tcccctcaac aacttttcag tggcaaaatg ccagttaatg
660
aaaacagaac gaccaaagcc aaacacattt ataatcagat gtctccagtg gactactgtt
720
atagagagaa catttcatgt agatactcca gaggaaaggg aagaatggac agaagctatc
780
caggctgtag cagacagact gcagaggcaa gaagaggaga gaatgaattg tagtccaact
840
tcacaaattg ataatatagg agaggaagag atggatgcct ctacaaccca tcataaaaga
900
aagacaatga atgattttga ctatttgaaa ctactaggta aaggcacttt tgggaaagtt
960
attttggttc gagagaaggc aagtggaaaa tactatgcta tgaagattct gaagaaagaa
1020
gtcattattg caaaggatga agtggcacac actctaactg aaagcagagt attaaagaac
1080
actagacatc cctttttaac atccttgaaa tattccttcc agacaaaaga ccgtttgtgt
1140
tttgtgatgg aatatgttaa tgggggcgag ctgtttttcc atttgtcgag agagcgggtg
1200
ttctctgagg accgcacacg tttctatggt gcagaaattg tctctgcctt ggactatcta
1260
cattccggaa agattgtgta ccgtgatctc aagttggaga atctaatgct ggacaaagat
1320
ggccacataa aaattacaga ttttggactt tgcaaagaag ggatcacaga tgcagccacc
1380
atgaagacat cctgtggcac tccagaatat ctggcaccag aggtgttaga agataatgac
1440
tatggccgag cagtagactg gtggggccta ggggttgtca tgtatgaaat gatgtgtggg
1500

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<210> 5792
<211> 479
<212> PRT
<213> Homo sapiens

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Gly Ser Phe Ile Gly Tyr Lys Glu Lys Pro Gln Asp Val Asp Leu Pro
        35   40   45
Tyr Pro Leu Asn Asn Phe Ser Val Ala Lys Cys Gln Leu Met Lys Thr
    50   55   60
Glu Arg Pro Lys Pro Asn Thr Phe Ile Ile Arg Cys Leu Gln Trp Thr
65   70   75   80
Thr Val Ile Glu Arg Thr Phe His Val Asp Thr Pro Glu Glu Arg Glu
                85   90   95
Glu Trp Thr Glu Ala Ile Gln Ala Val Ala Asp Arg Leu Gln Arg Gln
            100   105   110
Glu Glu Glu Arg Met Asn Cys Ser Pro Thr Ser Gln Ile Asp Asn Ile
        115   120   125
Gly Glu Glu Glu Met Asp Ala Ser Thr Thr His His Lys Arg Lys Thr
    130   135   140
Met Asn Asp Phe Asp Tyr Leu Lys Leu Leu Gly Lys Gly Thr Phe Gly
145   150   155   160
Lys Val Ile Leu Val Arg Glu Lys Ala Ser Gly Lys Tyr Tyr Ala Met
                165   170   175
Lys Ile Leu Lys Lys Glu Val Ile Ile Ala Lys Asp Glu Val Ala His
            180   185   190
Thr Leu Thr Glu Ser Arg Val Leu Lys Asn Thr Arg His Pro Phe Leu
        195   200   205
Thr Ser Leu Lys Tyr Ser Phe Gln Thr Lys Asp Arg Leu Cys Phe Val
    210   215   220
Met Glu Tyr Val Asn Gly Gly Glu Leu Phe Phe His Leu Ser Arg Glu
225   230   235   240
Arg Val Phe Ser Glu Asp Arg Thr Arg Phe Tyr Gly Ala Glu Ile Val
                245   250   255
Ser Ala Leu Asp Tyr Leu His Ser Gly Lys Ile Val Tyr Arg Asp Leu
            260   265   270
Lys Leu Glu Asn Leu Met Leu Asp Lys Asp Gly His Ile Lys Ile Thr
        275   280   285
Asp Phe Gly Leu Cys Lys Glu Gly Ile Thr Asp Ala Ala Thr Met Lys
    290   295   300
Thr Ser Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val Leu Glu Asp
305   310   315   320
Asn Asp Tyr Gly Arg Ala Val Asp Trp Trp Gly Leu Gly Val Val Met

4956

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Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr Asn Gln Asp His Glu
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Lys Leu Phe Glu Leu Ile Leu Met Glu Asp Ile Lys Phe Pro Arg Thr
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Leu Ser Ser Asp Ala Lys Ser Leu Leu Ser Gly Leu Leu Ile Lys Asp
            370                  375                  380
Pro Asn Lys Arg Leu Gly Gly Gly Pro Asp Asp Ala Lys Glu Ile Met
385                  390                  395                  400
Arg His Ser Phe Phe Ser Gly Val Asn Trp Gln Asp Val Tyr Asp Lys
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Lys Leu Val Pro Pro Phe Lys Pro Gln Val Thr Ser Glu Thr Asp Thr
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Arg Tyr Phe Asp Glu Glu Phe Thr Ala Gln Thr Ile Thr Ile Thr Pro
            435                  440                  445
Pro Glu Lys Tyr Asp Glu Asp Gly Met Asp Cys Met Asp Asn Glu Arg
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<210> 5793
<211> 2767
<212> DNA
<213> Homo sapiens
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840
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4958

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<210> 5794
<211> 209
<212> PRT
<213> Homo sapiens

<400> 5794
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Gly Trp Leu Ala Val Met Leu Cys Cys Ala Leu Pro Met Trp Arg Val
            20   25   30
Thr Ala Phe Ile Gly Ser Asn Ile Val Thr Ser Gln Thr Ile Trp Glu
        35   40   45
Gly Leu Trp Met Asn Cys Val Val Gln Ser Thr Gly Gln Met Gln Cys
    50   55   60
Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala
65   70   75   80
Arg Ala Leu Val Ile Ile Ser Ile Ile Val Ala Ala Leu Gly Val Leu
                85   90   95
Leu Ser Val Val Gly Gly Lys Cys Thr Asn Cys Leu Glu Asp Glu Ser
            100   105   110
Ala Lys Ala Lys Thr Met Ile Val Ala Gly Val Val Phe Leu Leu Ala
        115   120   125
Gly Leu Met Val Ile Val Pro Val Ser Trp Thr Ala His Asn Ile Ile
    130   135   140
Gln Asp Phe Tyr Asn Pro Leu Val Ala Ser Gly Gln Lys Arg Glu Met
145   150   155   160
Gly Ala Ser Leu Tyr Val Gly Trp Ala Ala Ser Gly Leu Leu Leu Leu
                165   170   175
Gly Gly Gly Leu Leu Cys Cys Asn Cys Pro Pro Arg Thr Asp Lys Pro
            180   185   190
Tyr Ser Ala Lys Tyr Ser Ala Ala Arg Ser Ala Ala Ala Ser Asn Tyr
            195   200   205
Val

<210> 5795
<211> 993
<212> DNA
<213> Homo sapiens

<400> 5795

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420
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<210> 5796
<211> 200
<212> PRT
<213> Homo sapiens

<400> 5796
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Lys Leu Arg Arg Pro Met Val Ile Glu Ile Ile Glu Lys Asn Phe Asp
            20   25   30
Tyr Leu Arg Lys Glu Met Thr Gln Asn Ile Tyr Gln Met Ala Thr Phe
        35   40   45
Gly Thr Thr Ala Gly Phe Ser Gly Ile Phe Ser Asn Phe Leu Phe Arg
    50   55   60
Arg Cys Phe Lys Val Lys His Asp Ala Leu Lys Thr Tyr Ala Ser Leu
65   70   75   80
Ala Thr Leu Pro Phe Leu Ser Thr Val Val Thr Asp Lys Leu Phe Val
                85   90   95
Ile Asp Ala Leu Tyr Ser Asp Asn Ile Ser Lys Glu Asn Cys Val Phe

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                    100                   105                   110
Arg Ser Ser Leu Ile Gly Ile Val Cys Gly Val Phe Tyr Pro Ser Ser
                115                   120                   125
Leu Ala Phe Thr Lys Asn Gly Arg Leu Ala Thr Lys Tyr His Thr Val
        130                   135                   140
Pro Leu Pro Pro Lys Gly Arg Val Leu Ile His Trp Met Thr Leu Cys
145                   150                   155                   160
Gln Thr Gln Met Lys Leu Met Ala Ile Pro Leu Val Phe Gln Ile Met
                    165                   170                   175
Phe Gly Ile Leu Asn Gly Leu Tyr His Tyr Ala Val Phe Glu Glu Thr
                180                   185                   190
Leu Glu Lys Thr Ile His Glu Glu
            195                   200
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<210> 5797
<211> 405
<212> DNA
<213> Homo sapiens

<400> 5797
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<210> 5798
<211> 109
<212> PRT
<213> Homo sapiens

<400> 5798
Met Ala Leu Thr Pro Ala Pro Ala Leu Pro Ala Ala His Pro Ala Ser
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Leu Leu Pro Ala Ala Lys Ser Arg Gln Leu Pro Asp Ser Pro Asn Pro
                20                  25                  30
Arg Arg Val Glu Gly Ser Arg Asp Gln Ala Trp Pro Leu Gln Thr Phe
            35                  40                  45
Ser Gln Arg Asn Tyr Arg Ser Leu Ser Leu Tyr Cys Trp Leu Ala Arg
        50                  55                  60
Glu Gly Arg Thr Ser Ser Tyr Gln Gly Asn Gln Gly Ser Leu Arg Pro
65                  70                  75                  80
Arg Pro Glu Pro Arg Gly Pro Glu Gly Ser Lys Arg Ser Gly Arg Pro
                85                  90                  95
Val Pro Cys Gly Asn Pro Ser Leu Met Thr Asn Leu Gly
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100   105

<210> 5799
<211> 4261
<212> DNA
<213> Homo sapiens

<400> 5799
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120
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1380

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<210> 5800
<211> 535
<212> PRT
<213> Homo sapiens

<400> 5800
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           35                    40                    45
Ile Val Gly Asn Ile Ile Gly Ser Gly Ile Phe Val Ser Pro Lys Gly
           50                    55                    60
Val Leu Glu Asn Ala Gly Ser Val Gly Leu Ala Leu Ile Val Trp Ile
65                    70                    75                    80
Val Thr Gly Phe Ile Thr Val Val Gly Ala Leu Cys Tyr Ala Glu Leu
                     85                    90                    95
Gly Val Thr Ile Pro Lys Ser Gly Gly Asp Tyr Ser Tyr Val Lys Asp
                    100                   105                   110
Ile Phe Gly Gly Leu Ala Gly Phe Leu Arg Leu Trp Ile Ala Val Leu
                    115                   120                   125
Val Ile Tyr Pro Thr Asn Gln Ala Val Ile Ala Leu Thr Phe Ser Asn
                    130                   135                   140
Tyr Val Leu Gln Pro Leu Phe Pro Thr Cys Phe Pro Pro Glu Ser Gly
145                   150                   155                   160
Leu Arg Leu Leu Ala Ala Ile Cys Leu Leu Leu Leu Thr Trp Val Asn
                    165                   170                   175
Cys Ser Ser Val Arg Trp Ala Thr Arg Val Gln Asp Ile Phe Thr Ala
                    180                   185                   190
Gly Lys Leu Leu Ala Leu Ala Leu Ile Ile Ile Met Gly Ile Val Gln
                    195                   200                   205
Ile Cys Lys Gly Glu Tyr Phe Trp Leu Glu Pro Lys Asn Ala Phe Glu
                    210                   215                   220
Asn Phe Gln Glu Pro Asp Ile Gly Leu Val Ala Leu Ala Phe Leu Gln
225                   230                   235                   240
Gly Ser Phe Ala Tyr Gly Gly Trp Asn Phe Leu Asn Tyr Val Thr Glu
                    245                   250                   255
Glu Leu Val Asp Pro Tyr Lys Asn Leu Pro Arg Ala Ile Phe Ile Ser
                    260                   265                   270
Ile Pro Leu Val Thr Phe Val Tyr Val Phe Ala Asn Val Ala Tyr Val
                    275                   280                   285
Thr Ala Met Ser Pro Gln Glu Leu Leu Ala Ser Asn Ala Val Ala Val
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Thr Phe Gly Glu Lys Leu Leu Gly Val Met Ala Trp Ile Met Pro Ile
305                   310                   315                   320
Ser Val Ala Leu Ser Thr Phe Gly Gly Val Asn Gly Ser Leu Phe Thr
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Ser Ser Arg Leu Phe Phe Ala Gly Ala Arg Glu Gly His Leu Pro Ser
                    340                   345                   350
Val Leu Ala Met Ile His Val Lys Arg Cys Thr Pro Ile Pro Ala Leu
                    355                   360                   365
Leu Phe Thr Cys Ile Ser Thr Leu Leu Met Leu Val Thr Ser Asp Met
                    370                   375                   380
Tyr Thr Leu Ile Asn Tyr Val Gly Phe Ile Asn Tyr Leu Phe Tyr Gly
385                   390                   395                   400
Val Thr Val Ala Gly Gln Ile Val Leu Arg Trp Lys Lys Pro Asp Ile
                    405                   410                   415
Pro Arg Pro Ile Lys Ile Asn Leu Leu Phe Pro Ile Ile Tyr Leu Leu
                    420                   425                   430
Phe Trp Ala Phe Leu Leu Val Phe Ser Leu Trp Ser Glu Pro Val Val
                    435                   440                   445
Cys Gly Ile Gly Leu Ala Ile Met Leu Thr Gly Val Pro Val Tyr Phe
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      450                     455                   460
Leu Gly Val Tyr Trp Gln His Lys Pro Lys Cys Phe Ser Asp Phe Ile
465                     470                   475                   480
Glu Leu Leu Thr Leu Val Ser Gln Lys Met Cys Val Val Val Tyr Pro
                  485                   490                   495
Glu Val Glu Arg Gly Ser Gly Thr Glu Glu Ala Asn Glu Asp Met Glu
                  500                   505                   510
Glu Gln Gln Gln Pro Met Tyr Gln Pro Thr Pro Thr Lys Asp Lys Asp
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Val Ala Gly Gln Pro Gln Pro
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<210> 5801
<211> 2418
<212> DNA
<213> Homo sapiens

<400> 5801

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480
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1080
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1200

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1260

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1380

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1440

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1500

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1560

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1620

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1680

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1740

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1920

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1980

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2100

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2160

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2220

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2280

cagccactga gtgtcacagc aatgagagag caatgtttgc tgtagtaagc agtgagattt
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2400

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2418

<210> 5802
<211> 350
<212> PRT
<213> Homo sapiens

<400> 5802
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            Phe Glu Lys Val Pro Leu Phe Met Ser Arg Ala Pro Ser Glu Ile Asp
                            35                    40                    45
            Pro Arg Glu Asn Pro Asp Leu Ala Cys Leu Gln Ser Ile Ile Phe Asp
                    50                    55                    60
            Glu Glu Arg Ser Pro Glu Glu Gln Ala Lys Thr Tyr Lys Asp Glu Gly
            65                    70                    75                    80
            Asn Asp Tyr Phe Lys Glu Lys Asp Tyr Lys Lys Ala Val Ile Ser Tyr
                                85                    90                    95
            Thr Glu Gly Leu Lys Lys Lys Cys Ala Asp Pro Asp Leu Asn Ala Val
                            100                   105                   110
            Leu Tyr Thr Asn Arg Ala Ala Ala Gln Tyr Tyr Leu Gly Asn Phe Arg
                    115                   120                   125
            Ser Ala Leu Asn Asp Val Thr Ala Ala Arg Lys Leu Lys Pro Cys His
                    130                   135                   140
            Leu Lys Ala Ile Ile Arg Gly Ala Leu Cys His Leu Glu Leu Lys His
            145                   150                   155                   160
            Phe Ala Glu Ala Val Asn Trp Cys Asp Glu Gly Leu Gln Ile Asp Ala
                            165                   170                   175
            Lys Glu Lys Lys Leu Leu Glu Met Arg Ala Lys Ala Asp Lys Leu Lys
                        180                   185                   190
            Arg Ile Glu Gln Arg Asp Val Arg Lys Ala Asn Leu Lys Glu Lys Lys
                        195                   200                   205
            Glu Arg Asn Gln Asn Glu Ala Leu Leu Gln Ala Ile Lys Ala Arg Asn
                    210                   215                   220
            Ile Arg Leu Ser Glu Ala Ala Cys Glu Asp Glu Asp Ser Ala Ser Glu
            225                   230                   235                   240
            Gly Leu Gly Glu Leu Phe Leu Asp Gly Leu Ser Thr Glu Asn Pro His
                            245                   250                   255
            Gly Ala Arg Leu Ser Leu Asp Gly Gln Gly Arg Leu Ser Trp Pro Val
                        260                   265                   270
            Leu Phe Leu Tyr Pro Glu Tyr Ala Gln Ser Asp Phe Ile Ser Ala Phe
                    275                   280                   285
            His Glu Asp Ser Arg Phe Ile Asp His Leu Met Val Met Phe Gly Glu
                290                   295                   300
            Thr Pro Ser Trp Asp Leu Glu Gln Lys Tyr Cys Leu Ile Ile Trp Arg
            305                   310                   315                   320
            Ser Thr Leu Arg Met Arg Thr Gly Gln Asn Tyr Thr Gly Cys Leu Pro
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            Arg Ala Pro Cys Tyr Arg Phe Tyr Ser Thr Arg Gly Thr Leu
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<210> 5803
<211> 692
<212> DNA
<213> Homo sapiens

<400> 5803
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120

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300
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360
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<210> 5804
<211> 126
<212> PRT
<213> Homo sapiens

<400> 5804
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Glu His Arg Asn Phe Lys Pro Val Val Tyr His Gly Val Asn Leu Asp
            20                  25                  30
Gln Thr Val Lys Glu Phe Ile Val Phe Leu Lys Gln Asp Val Pro Leu
        35                  40                  45
Arg Thr Asn Leu Pro Pro Pro Phe Arg Asn Tyr Lys Tyr Asp Ala Leu
    50                  55                  60
Lys Ile Ile His Gln Ala His Lys Ser Lys Thr Asn Glu Leu Val Leu
65                  70                  75                  80
Ser Leu Glu Asp Asp Glu Arg Leu Leu Leu Lys Glu Asp Ser Thr Leu
            85                  90                  95
Lys Ala Ala Gly Ile Ala Ser Glu Thr Glu Ile Ala Phe Phe Cys Glu
            100                 105                 110
Glu Asp Tyr Arg Asn Tyr Lys Ala Asn Pro Ile Ser Ser Trp
            115                 120                 125

<210> 5805
<211> 1112
<212> DNA
<213> Homo sapiens

<400> 5805
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120
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<210> 5806
<211> 105
<212> PRT
<213> Homo sapiens
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<400> 5806
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Lys Met Thr Glu Val Met Met Asn Thr Gln Pro Met Glu Glu Ile Gly
            20                  25                  30
Leu Ser Pro Arg Lys Asp Gly Leu Ser Tyr Gln Ile Phe Pro Asp Pro
        35                  40                  45
Ser Asp Phe Asp Arg Cys Cys Lys Leu Lys Asp Arg Leu Pro Ser Ile
    50                  55                  60
Val Val Glu Pro Thr Glu Gly Glu Val Glu Ser Gly Glu Leu Arg Trp
65                  70                  75                  80
Pro Pro Glu Glu Phe Leu Val Gln Glu Asp Glu Gln Asp Asn Cys Glu
                85                  90                  95
Glu Thr Ala Lys Glu Asn Lys Glu Gln
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                    100   105

<210> 5807
<211> 1429
<212> DNA
<213> Homo sapiens

<400> 5807
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1380

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1429

<210> 5808
<211> 261
<212> PRT
<213> Homo sapiens

<400> 5808
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            20   25   30
Leu Leu Gly Gly Ile Pro Glu Ser Gly Gly Pro Asp Ala Arg Gln Gly
        35   40   45
Trp Leu Ala Ala Leu Gln Asp Arg Ser Ile Leu Ala Pro Leu Ala Trp
    50   55   60
Asp Leu Gly Leu Leu Leu Leu Phe Val Gly Gln His Ser Leu Met Ala
65   70   75   80
Ala Glu Arg Val Lys Ala Trp Thr Ser Arg Tyr Phe Gly Val Leu Gln
                85   90   95
Arg Ser Leu Tyr Val Ala Cys Thr Ala Leu Ala Leu Gln Leu Val Met
            100   105   110
Arg Tyr Trp Glu Pro Ile Pro Lys Gly Pro Val Leu Trp Glu Ala Arg
        115   120   125
Ala Glu Pro Trp Ala Thr Trp Val Pro Leu Leu Cys Phe Val Leu His
    130   135   140
Val Ile Ser Trp Leu Leu Ile Phe Ser Ile Leu Leu Val Phe Asp Tyr
145   150   155   160
Ala Glu Leu Met Gly Leu Lys Gln Val Tyr Tyr His Val Leu Gly Leu
                165   170   175
Gly Glu Pro Leu Ala Leu Lys Ser Pro Arg Ala Leu Arg Leu Phe Ser
            180   185   190
His Leu Arg His Pro Val Cys Val Glu Leu Leu Thr Val Leu Trp Val
        195   200   205
Val Pro Thr Leu Gly Thr Asp Arg Leu Leu Leu Ala Phe Leu Leu Thr
    210   215   220
Leu Tyr Leu Gly Leu Ala His Gly Leu Asp Gln Gln Asp Leu Arg Tyr
225   230   235   240
Leu Arg Ala Gln Leu Gln Arg Lys Leu His Leu Leu Ser Arg Pro Gln
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Asp Gly Glu Ala Glu
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<210> 5809
<211> 2009
<212> DNA
<213> Homo sapiens

<400> 5809
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120

                                4972

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1560
atgacagcat gagggtgtgg aagctaaccc atgagctctg gggaggccca gggtctccct
1620
gtccccacct gccagtgtgg gaagtggggc cgccctttgc tgaagcagca gcagaggctc
1680
acccatcggg caggaggctg gcagcccgtg agggtggagc cgaatctcat cacccaggaa
1740
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caagcccagt gtggagacca gaagcctgcg tggggcagga gttcccggcg cagcaaggga
1800
cgggacgagg accttggtcc cggggcgggg cgggcggggc ccttatctct cagaacactc
1860
acaggcaacg cccaggactc cagaatcttc tgccctgggc agggagggcc tgcttggatc
1920
cttccccctt ccatcggggg ccacagagca cacccgtgga gaagcaggag cgggccctgg
1980
gcctcctcag cttggccacg gagttgctg
2009

<210> 5810
<211> 52
<212> PRT
<213> Homo sapiens

<400> 5810
Xaa Phe Phe Phe Phe Phe Lys Met Glu Ser Arg Ser Ile Thr Gln Ala
1   5   10   15
Gly Gly Gln Trp Arg Asp Leu Gly Ser Leu Gln Pro Pro Pro Pro Gly
            20   25   30
Phe Lys Gln Phe Ser Cys Leu Ser Leu Leu Ser Ser Trp His Tyr Lys
        35   40   45
His Pro Thr Pro
    50

<210> 5811
<211> 1607
<212> DNA
<213> Homo sapiens

<400> 5811
gttagcaaga aagtgatgtg ttccgggtag gggaattctg ttttggtatt attttgtctt
60
tcctgagaaa agcatcacaa aaagagatgt ttgcccatcc tgtttgctgg ggtagtggga
120
agagaccggg ggtgatggtg gtgctggctg gacgtgggtg gtttcacagg acctgctgtg
180
tctgagagga gccatgcggt gattagaagc ttggaggctg cagatctgcc gacaccccag
240
gccatcgagc cccaggccat cgtgcagcag gtcccagccc ccagtcgaat gcagatgccg
300
caggggaacc cgctgctgct gtcccacacc ctgcaggagc tgctggccag ggacaccgtg
360
caggtggagc tcattccgga gaagaagggc ctcttcctga agcatgtgga gtatgaggtt
420
tccagccagc gcttcaagtc ctcggtatac agacggtaca atgacttcgt ggtcttccag
480
gagatgctcc tgcacaagtt cccctaccgt atggtgcctg ccctgccacc caagagaatg
540
ctgggagctg acagggagtt catcgaggcc aggaggagag ccctgaagcg cttcgtcaac
600
ctggtggcgc gacaccccct gttctccgag gatgtggtcc tcaagctctt cctgtccttc
660

agcggctcgg atgtgcagaa caagttaaag gagtcagcac agtgcgtcgg ggacgaattc
720
ctgaactgta agctggctac cagggccaag gacttcctcc cagctgacat ccaggctcag
780
tttgccatca gccgggagct gatccggaac atctacaata gctttcacaa gcttcgcgac
840
agggccgagc ggatcgcgtc gcgggccatc gacaatgcgg cagatcttct catattcggg
900
aaggagctaa gtgcaatagg gtctgacacg accccgctgc cctcctgggc cgctctgaat
960
agcagcacgt gggggtccct gaagcaggct ctgaaaggcc tgtctgtgga attcgcgctg
1020
ctcgccgaca aggctgcaca acagggtaag caggaagaga cgacgtggt ggagaagctg
1080
aacctcttct tggatctgct gcagtcctat aaggacctgt gcgagcggca tgagaagggc
1140
gtgttgcaca agcaccagcg ggccctgcac aagtacagcc tgatgaagag gcagatgatg
1200
agcgccaccg cgcagaaccg cgagccggag tccgtggagc agctggagtc ccgcatcgtg
1260
gagcaggaga cgcgattca gacgatggag ctgcggaact acttctccct gtactgcctg
1320
caccaggaga cgcagctcat ccacgtctac ctgcccctca cctcccacat cctccgcgcc
1380
ttcgtcaact ctcagatcca agggcacaag gagatgagca aggtgtggaa cgacctgagg
1440
cccaagctca gctgcctctt tgcgggacca cacagcaccc tgaccccacc gtgctccccg
1500
ccggaggacg gcctgtgtcc tcactagcgc ctgaggctga ggtggtgctc cctgcggccg
1560
caagcttatt ccctttagtg agggttaatt ttagcttgca ctggccg
1607

<210> 5812
<211> 463
<212> PRT
<213> Homo sapiens

<400> 5812
Trp Trp Cys Trp Leu Asp Val Gly Gly Phe Thr Gly Pro Ala Val Ser
1   5   10   15
Glu Arg Ser His Ala Val Ile Arg Ser Leu Glu Ala Ala Asp Leu Pro
            20   25   30
Thr Pro Gln Ala Ile Glu Pro Gln Ala Ile Val Gln Gln Val Pro Ala
        35   40   45
Pro Ser Arg Met Gln Met Pro Gln Gly Asn Pro Leu Leu Leu Ser His
    50   55   60
Thr Leu Gln Glu Leu Leu Ala Arg Asp Thr Val Gln Val Glu Leu Ile
65   70   75   80
Pro Glu Lys Lys Gly Leu Phe Leu Lys His Val Glu Tyr Glu Val Ser
                85   90   95
Ser Gln Arg Phe Lys Ser Ser Val Tyr Arg Arg Tyr Asn Asp Phe Val
                100   105   110
Val Phe Gln Glu Met Leu Leu His Lys Phe Pro Tyr Arg Met Val Pro

4975

```
            115                 120                 125
Ala Leu Pro Pro Lys Arg Met Leu Gly Ala Asp Arg Glu Phe Ile Glu
    130                 135                 140
Ala Arg Arg Arg Ala Leu Lys Arg Phe Val Asn Leu Val Ala Arg His
145                 150                 155                 160
Pro Leu Phe Ser Glu Asp Val Val Leu Lys Leu Phe Leu Ser Phe Ser
                165                 170                 175
Gly Ser Asp Val Gln Asn Lys Leu Lys Glu Ser Ala Gln Cys Val Gly
            180                 185                 190
Asp Glu Phe Leu Asn Cys Lys Leu Ala Thr Arg Ala Lys Asp Phe Leu
            195                 200                 205
Pro Ala Asp Ile Gln Ala Gln Phe Ala Ile Ser Arg Glu Leu Ile Arg
    210                 215                 220
Asn Ile Tyr Asn Ser Phe His Lys Leu Arg Asp Arg Ala Glu Arg Ile
225                 230                 235                 240
Ala Ser Arg Ala Ile Asp Asn Ala Ala Asp Leu Leu Ile Phe Gly Lys
                245                 250                 255
Glu Leu Ser Ala Ile Gly Ser Asp Thr Thr Pro Leu Pro Ser Trp Ala
            260                 265                 270
Ala Leu Asn Ser Ser Thr Trp Gly Ser Leu Lys Gln Ala Leu Lys Gly
            275                 280                 285
Leu Ser Val Glu Phe Ala Leu Leu Ala Asp Lys Ala Ala Gln Gln Gly
    290                 295                 300
Lys Gln Glu Glu Asn Asp Val Val Glu Lys Leu Asn Leu Phe Leu Asp
305                 310                 315                 320
Leu Leu Gln Ser Tyr Lys Asp Leu Cys Glu Arg His Glu Lys Gly Val
                325                 330                 335
Leu His Lys His Gln Arg Ala Leu His Lys Tyr Ser Leu Met Lys Arg
            340                 345                 350
Gln Met Met Ser Ala Thr Ala Gln Asn Arg Glu Pro Glu Ser Val Glu
            355                 360                 365
Gln Leu Glu Ser Arg Ile Val Glu Gln Glu Asn Ala Ile Gln Thr Met
    370                 375                 380
Glu Leu Arg Asn Tyr Phe Ser Leu Tyr Cys Leu His Gln Glu Thr Gln
385                 390                 395                 400
Leu Ile His Val Tyr Leu Pro Leu Thr Ser His Ile Leu Arg Ala Phe
                405                 410                 415
Val Asn Ser Gln Ile Gln Gly His Lys Glu Met Ser Lys Val Trp Asn
            420                 425                 430
Asp Leu Arg Pro Lys Leu Ser Cys Leu Phe Ala Gly Pro His Ser Thr
            435                 440                 445
Leu Thr Pro Pro Cys Ser Pro Pro Glu Asp Gly Leu Cys Pro His
    450                 455                 460

<210> 5813
<211> 2991
<212> DNA
<213> Homo sapiens

<400> 5813
nttgatgtat gtaattgatc actttattaa ctggcaaaaa gaagccttgt tgaggtgata
60
aaccgaactt cattacatcc tgtatgtcga gagcaaacac attgggacgt ggctgatggg
120
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4976

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ttcccatttc aaggctgatt ctgatgatga taatgtttaa gtagcattga ttgttctcta
180
attgaatttt tctttcttta ggcctcttct gaagagctga aagctgccta ccggaggctc
240
tgtatgctct accatccaga caagcacaga gacccagagc tcaagtcaca ggcggaacga
300
ctgtttaacc ttgttcacca ggcttatgaa gtgcttagtg accccaaac cagggccatc
360
tatgatatat atgggaagag aggactggaa atggaaggat gggaggttgt ggaaaggagg
420
agaacccctg ctgaaattcg agaggagttt gagcggctgc agagagagag agaagagagg
480
agattgcagc agcgaaccaa tcccaagctt tgtgacaaca aactgtgctc tgcagttttc
540
atcccgtgga atccgacccg gcctgaccac tgtcctagct cggaacctag acaagaacac
600
cgtgggctac ctgcagtggc gatggggtat ccagtcagcc atgaacacta gcatcgtccg
660
agacactaaa accagccact tcactgtggc cctgcagctg ggaatccctc actcctttgc
720
actgatcagc tatcagcaca aattccaaga tgacgatcag actcgtgtga aaggatccct
780
gcagagcagg cttctttggg acggtggtgg agtacggagc tgagaggaag atctccaggc
840
acagcgtttt gggtgcagct gtcagcgttg gagttccaca gggcgtttct ctcaaagtca
900
agctcaacag ggccagtcag acatacttct tccctattca cttgacggac cagcttctgc
960
ccagcgccat gttctatgcc accgtggggc ctctagtggt ctactttgcc atgcaccgtc
1020
tgatcatcaa accatacctc agggctcaga aagagaagga attggagaag cagagggaaa
1080
gcgccgccac cgatgtgctg cagaagaagc aagaggcgga gtccgctgtc cggctgatgc
1140
aggaatctgt ccgaaggata attgaggcag aagagtccag aatgggcctc atcatcgtca
1200
atgcctggta cgggaagttt gtcaatgaca agagcaggaa gagcgagaag gtgaaggtga
1260
ttgacgtgac tgtgcccctg cagtgcctgg tgaaggactc gaagctcatc ctcacggagg
1320
cctccaaggc tgggctgcct ggcttttatg acccgtgtgt gggggaagag aagaacctga
1380
aagtgctcta tcagttccgg ggcgtcctgc atcaggtgat ggtgctggac agtgaggccc
1440
tccggatacc aaagcagtcc cacaggatcg atacagatgg ataaactgcc aagaaccaga
1500
tttttaaaag gccgcaaaaa atcttttcct gggagtctac aaatttggaa atgaaaaaac
1560
ccagacatca gatgtttttta ttttatatta ttattataga aggtggtacc attatcaatt
1620
atgtgaaggg acatgcagac accccagctt ttgagggtgc tggggtagg actgaggcag
1680
ccccactggg aaccagactg cagcctggcc catggctgtt ttcccaagga tcagttcctg
1740
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gagggaaggg ctctggccct gactccgctg tgtcccgagc acacgtgctg accgcagccc
1800
gccgccctgt agttcttggc tgggtctgga ggtgtctgtg gagcaccctg ccctcaccac
1860
aggagcgtga gccacttctg cagtccacgc tgaacatggg aaacaacctg aaaagcaggc
1920
aggcctcccg gtcagggagc ctctgctgtg ctggcttccc atgaccacct cctcttgctg
1980
aaatattact gcttgaatct ggagcagatt gcgggtttat aaaactgctt tttatctgag
2040
aacaaacggg tttggaaatt agtcgtcttt tttccccact cccagagctg ctcaagtcat
2100
tccaccggcc ccctcggctt gggacagggt agtgtaactc ccgatcccag ggcctagccc
2160
tgacacaggt ggcttcccgt atcccggtgg aaaacgccc tgccaccagc gggcttgagc
2220
tggcctgtgt ccctccaccg cctgcaccac ccacctccag agtgcagtgc tgggcaaggg
2280
cagctcaaga ggacaggacc aggcgcttgg caagacatca gacacaccca acccaaaggc
2340
gtggacccca ggcccggccc gtggtaccca gcaggtggca ctgcagctcc ccgctcctgc
2400
aggtccagcg tcctcacagg aacaccaggg cctgtgctcc ggagccttcc ttcagaccct
2460
tcctccacgt gcccacttgg gatgcagaat gcagcggagc taggacccc tccacggcct
2520
ggacctcggc tgcagtaaag ttacgtgagg cctgtctctc ggggcctgga agtggcagcc
2580
atcagttgct cttgctgacc cctcggagca agcgccgcac aggtggtggc tgagacagct
2640
ggcgcggggg gccccaagct gcgccggcct ccagcccacc cacagctgtt gctgaagtca
2700
ggcctccctc cccagcactg gtatctgagt aacggctaag aacctccttc ctctggtttt
2760
gaaaagcagt tcgggttgtc caattctgta acattcatct ccattttta aaaaggtttc
2820
tctgacggcc ccacggcccg agccgcggtg agcgtcgtgt tgcatgagcc tgggcccggg
2880
gcttcccgtg cgcctctgcc gcaggtgctt ctgggcaccc atcctctgcg tttcatttgc
2940
agtcgactgt acagaaggca ctcaccacaa taaaccttc ctgaaagcag a
2991
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<210> 5814
<211> 149
<212> PRT
<213> Homo sapiens

<400> 5814
Ala Ser Ser Glu Glu Leu Lys Ala Ala Tyr Arg Arg Leu Cys Met Leu
1               5                   10                  15
Tyr His Pro Asp Lys His Arg Asp Pro Glu Leu Lys Ser Gln Ala Glu
                20                  25                  30
Arg Leu Phe Asn Leu Val His Gln Ala Tyr Glu Val Leu Ser Asp Pro
```

4978

```
              35                    40                    45
Gln Thr Arg Ala Ile Tyr Asp Ile Tyr Gly Lys Arg Gly Leu Glu Met
      50                    55                    60
Glu Gly Trp Glu Val Val Glu Arg Arg Arg Thr Pro Ala Glu Ile Arg
65                    70                    75                    80
Glu Glu Phe Glu Arg Leu Gln Arg Glu Arg Glu Glu Arg Arg Leu Gln
                  85                    90                    95
Gln Arg Thr Asn Pro Lys Leu Cys Asp Asn Lys Leu Cys Ser Ala Val
                  100                   105                   110
Phe Ile Pro Trp Asn Pro Thr Arg Pro Asp His Cys Pro Ser Ser Glu
              115                   120                   125
Pro Arg Gln Glu His Arg Gly Leu Pro Ala Val Ala Met Gly Tyr Pro
      130                   135                   140
Val Ser His Glu His
145


<210> 5815
<211> 590
<212> DNA
<213> Homo sapiens


<400> 5815
ttcatccagg ctgctcttgg ggatcagcca cgtgatatcc tttgtggggc agctgatgaa
60
gttctagctg ttctaaagaa tgaaaagctg cgggacaagg aaaggcgaaa ggagattgac
120
ctgctgctgg gtcaaacaga tgataccaga taccatgtgc tagtgaacct gggcctcccg
180
agtctcttta gttttgggct tgtagatgat gcccaccatc tcatcaatgc cctccgacag
240
cagagtataa cccttcatct tgttgatgtc atgccggtcc tcatcacgct ttcttcgctt
300
ggctcttctt tcctcctgca tctgcggttt ggtccgttga gccttgtctc ccatacgggt
360
gccctccagc ttcccaacaa gggacagcac ctctcctgtg ggttcatccc ggcgggtccg
420
gtcaatgaga gaacggtcag cttggagcac aagattcgag ttcgccttgt actcgtattg
480
cagactacgg gcggttacat ccgccatggc cgcggctgct cggaggcttc agaccaccac
540
gcctccatac cgcaagctgc aaacggccgc agatctctgc tcctggcgcc
590


<210> 5816
<211> 196
<212> PRT
<213> Homo sapiens


<400> 5816
Phe Ile Gln Ala Ala Leu Gly Asp Gln Pro Arg Asp Ile Leu Cys Gly
1                   5                   10                    15
Ala Ala Asp Glu Val Leu Ala Val Leu Lys Asn Glu Lys Leu Arg Asp
                  20                    25                    30
Lys Glu Arg Arg Lys Glu Ile Asp Leu Leu Leu Gly Gln Thr Asp Asp
```

4979

```
            35                    40                    45
Thr Arg Tyr His Val Leu Val Asn Leu Gly Leu Pro Ser Leu Phe Ser
    50                    55                    60
Phe Gly Leu Val Asp Asp Ala His His Leu Ile Asn Ala Leu Arg Gln
65                    70                    75                    80
Gln Ser Ile Thr Leu His Leu Val Asp Val Met Pro Val Leu Ile Thr
                85                    90                    95
Leu Ser Ser Leu Gly Ser Ser Phe Leu Leu His Leu Arg Phe Gly Pro
                100                   105                   110
Leu Ser Leu Val Ser His Thr Gly Ala Leu Gln Leu Pro Asn Lys Gly
                115                   120                   125
Gln His Leu Ser Cys Gly Phe Ile Pro Ala Gly Pro Val Asn Glu Arg
        130                   135                   140
Thr Val Ser Leu Glu His Lys Ile Arg Val Arg Leu Val Leu Val Leu
145                   150                   155                   160
Gln Thr Thr Gly Gly Tyr Ile Arg His Gly Arg Gly Cys Ser Glu Ala
                165                   170                   175
Ser Asp His His Ala Ser Ile Pro Gln Ala Ala Asn Gly Arg Arg Ser
        180                   185                   190
Leu Leu Leu Ala
        195


<210> 5817
<211> 648
<212> DNA
<213> Homo sapiens

<400> 5817
cccaaagatg cagaactaca aagcaagccc caagatggag tgagcaacaa caatgaaatt
60
cagaagaaag ccaccatggg gcagttacag aacaaggaga acaataacac caaggacagc
120
cctagtaggc agtgctcctg ggacaagtct gagtcacccc agagaagcag catgaacaat
180
ggatccccca cagctctatc aggcagcaaa accaacagcc caaagaacag tgttcacaag
240
ctagatgtgt ctagaagccc ccctctcatg gtcaaaaaga acccagcctt taataagggt
300
agtgggatag ttaccaatgg gtccttcagc agcagtaatg cagaaggtct tgagaaaacc
360
caaaccaccc ccaatgggag cctacaggcc agaaggagct cttcactgaa ggtatctggt
420
accaaaatgg gcacgcacag tgtacagaat ggaacggtgc gcatgggcat tttgaacagc
480
gacacactcg ggaaccccac aaatgttcga aacatgagct ggctgccaaa tggctatgtg
540
accctgaggg ataacaagca gaaagaacaa gctggagagt taggccagca caacagactg
600
tcacctatga taatgtccat cacagttctc catgatgaac ttgatgac
648


<210> 5818
<211> 191
<212> PRT
```

4980

<213> Homo sapiens

<400> 5818
```
Met Gly Gln Leu Gln Asn Lys Glu Asn Asn Asn Thr Lys Asp Ser Pro
 1               5                  10                  15
Ser Arg Gln Cys Ser Trp Asp Lys Ser Glu Ser Pro Gln Arg Ser Ser
               20                  25                  30
Met Asn Asn Gly Ser Pro Thr Ala Leu Ser Gly Ser Lys Thr Asn Ser
           35                  40                  45
Pro Lys Asn Ser Val His Lys Leu Asp Val Ser Arg Ser Pro Pro Leu
       50                  55                  60
Met Val Lys Lys Asn Pro Ala Phe Asn Lys Gly Ser Gly Ile Val Thr
65                  70                  75                  80
Asn Gly Ser Phe Ser Ser Ser Asn Ala Glu Gly Leu Glu Lys Thr Gln
               85                  90                  95
Thr Thr Pro Asn Gly Ser Leu Gln Ala Arg Arg Ser Ser Ser Leu Lys
           100                 105                 110
Val Ser Gly Thr Lys Met Gly Thr His Ser Val Gln Asn Gly Thr Val
           115                 120                 125
Arg Met Gly Ile Leu Asn Ser Asp Thr Leu Gly Asn Pro Thr Asn Val
       130                 135                 140
Arg Asn Met Ser Trp Leu Pro Asn Gly Tyr Val Thr Leu Arg Asp Asn
145                 150                 155                 160
Lys Gln Lys Glu Gln Ala Gly Glu Leu Gly Gln His Asn Arg Leu Ser
               165                 170                 175
Pro Met Ile Met Ser Ile Thr Val Leu His Asp Glu Leu Asp Asp
               180                 185                 190
```

<210> 5819
<211> 1652
<212> DNA
<213> Homo sapiens

<400> 5819
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gatattcttt tggaaacgta atattggcct tggggctctc cagccctttg ggacttccaa
60
tgggatctta gaagcagccg aagcagcgtg agggcggccg agggccagcc acgatttgaa
120
cgctctgcct tgcagctctt ctggaccgag gagcccaaag ccctaccctc accattcacc
180
aggtcctgtg ggaagagcag cgtggaggtg ggctgaggtt agaaggtgca gagcgtggaa
240
gaagattgtg agctgagtat tggacatctg ttcttgaata gtccctgggc ctgccatagg
300
aaaggaagtt ctccagggtt acagttctta tccgcgtgaa tacacatggc tctgttacga
360
aaaattaatc aggtgctgct gttccttctg atcgtgaccc tctgtgtgat tctgtataag
420
aaagttcata aggggactgt gcccaagaat gacgcagatg atgaatccga gactcctgaa
480
gaactggaag aaagagattcc tgtggtgatt tgtgctgcag cagggaggat gggtgccact
540
atggctgcca tcaatagcat ctacagcaac cctgacgcca acatcttgtt ctatgtagtg
600
```

```
ggactccgga atactctgac tcgaatacga aaatggattg aacattccaa actgagagaa
660
ataaacttta aaatcgtgga attcaacccg atggtcctca aagggaagat cagaccagac
720
tcatcgaggc ctgaattgct ccagcctctg aactttgttc gattttatct ccctctactt
780
atccaccaac acgagaaagt catctatttg gacgatgatg taattgtaca aggtgatatc
840
caagaactgt atgacaccac cttggccctg ggccacgcgg cggctttctc agatgactgc
900
gatttgccct ctgctcagga cataaacaga ctcgtgggac ttcagaacac atatatgggc
960
tatctggact accggaagaa ggccatcaag gaccttggca tcagccccag cacctgctct
1020
ttcaatcctg gtgtgattgt tgccaacatg acagaatgga gcaccagcg catcaccaag
1080
caattggaga aatggatgca aaagaatgtg gagtacgtga aggcttctct accatttttt
1140
ccatgcttgg aaacaaaatc attcaattaa ttttccacac atagttcaag ggttagaaat
1200
atttcacagt catctcaggt cagattttct tacagaggca atgttaagaa agaaaagggg
1260
gcagtcaatt aaaacctttc ctcaaaagat ataaatcaga ggaatcaaga tcctgtggag
1320
cgaggagtcc ctgattatac attttcctag taagctgttg aaaaatgtga cttgaatctt
1380
ttccaccaaa caatcttcat ttatcttagt tgagtttccc ctcctaacat agattttttt
1440
attaaggatt attatataaa gtcaattttg cttttaagg tttattttta taatttataa
1500
tttttcgtta tcggagtttt aaaatagaga agataaaaat aagtctaata caagcactat
1560
tatcccatca ttgtattgcc tagcagtctt gtgtatctgg atattttaat accatcataa
1620
ccttgaattt gcaagtaaag ttattctaaa ta
1652
```

```
<210> 5820
<211> 274
<212> PRT
<213> Homo sapiens
```

```
<400> 5820
Met Ala Leu Leu Arg Lys Ile Asn Gln Val Leu Leu Phe Leu Leu Ile
1               5                   10                  15
Val Thr Leu Cys Val Ile Leu Tyr Lys Lys Val His Lys Gly Thr Val
            20                  25                  30
Pro Lys Asn Asp Ala Asp Asp Glu Ser Glu Thr Pro Glu Glu Leu Glu
        35                  40                  45
Glu Glu Ile Pro Val Val Ile Cys Ala Ala Ala Gly Arg Met Gly Ala
    50                  55                  60
Thr Met Ala Ala Ile Asn Ser Ile Tyr Ser Asn Pro Asp Ala Asn Ile
65                  70                  75                  80
Leu Phe Tyr Val Val Gly Leu Arg Asn Thr Leu Thr Arg Ile Arg Lys
```

```
                         85                   90                   95
Trp Ile Glu His Ser Lys Leu Arg Glu Ile Asn Phe Lys Ile Val Glu
                100                  105                  110
Phe Asn Pro Met Val Leu Lys Gly Lys Ile Arg Pro Asp Ser Ser Arg
            115                  120                  125
Pro Glu Leu Leu Gln Pro Leu Asn Phe Val Arg Phe Tyr Leu Pro Leu
    130                  135                  140
Leu Ile His Gln His Glu Lys Val Ile Tyr Leu Asp Asp Asp Val Ile
145                  150                  155                  160
Val Gln Gly Asp Ile Gln Glu Leu Tyr Asp Thr Thr Leu Ala Leu Gly
                165                  170                  175
His Ala Ala Ala Phe Ser Asp Asp Cys Asp Leu Pro Ser Ala Gln Asp
                180                  185                  190
Ile Asn Arg Leu Val Gly Leu Gln Asn Thr Tyr Met Gly Tyr Leu Asp
            195                  200                  205
Tyr Arg Lys Lys Ala Ile Lys Asp Leu Gly Ile Ser Pro Ser Thr Cys
    210                  215                  220
Ser Phe Asn Pro Gly Val Ile Val Ala Asn Met Thr Glu Trp Lys His
225                  230                  235                  240
Gln Arg Ile Thr Lys Gln Leu Glu Lys Trp Met Gln Lys Asn Val Glu
                245                  250                  255
Tyr Val Lys Ala Ser Leu Pro Phe Phe Pro Cys Leu Glu Thr Lys Ser
                260                  265                  270
Phe Asn
```

```
<210> 5821
<211> 3292
<212> DNA
<213> Homo sapiens

<400> 5821
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60
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120
taaaaaggaa aaaatataac ttagagcccc ctatgaaaaa ctaaattagc atcatgacag
180
gatacacttt ggggagtgaa atttcacagt acctttattt aattccaagc catagagcct
240
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360
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420
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480
ccctttgcct ggagccctct ggccggggag aagttcgtgg aggtgtacaa agaagctcac
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600
gaagaccctc ggagccaggg cgtggaaaga ttcatacagg agtcaaaatt aaaaataaac
660
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ctctttgaga aagaaaagga aatgaagaaa agccccacgt ctcttaaaag ggagacatac
720
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780
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1080
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1320
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1920
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1980
gattccaggc tggtggatgt gtccctgac aggggttctc ctccttcccg tgtgcctcag
2040
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2100
gtagctcggg aggaagccaa gccgggtgga gatgcagccc ctagtgaggc tcttcttgta
2160
gatatcaaac tggaaccact cgcggtcact ccagatgctg caagccagcc cctcattgac
2220
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2280

aggcctctga tcgacctcat gacaaacact ccagacatga ataaaaatgt ggccaaacct
2340
tcaccggtgg tgggacagct catagacctg agctcccctc tgatccagct gagccctgag
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2640
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2700
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2760
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2820
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2880
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3060
taaatagtta gatattctag atttacatta aattgtaaaa taaatggact tattgaagca
3120
tatcttgatt tttaagctta tcttgatttt caaacatgca tagctatttt tatcactcta
3180
atcagtaagg ctactatcta gactcgaatg ctttcataca agtgattttc aaaaattagt
3240
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3292

<210> 5822
<211> 712
<212> PRT
<213> Homo sapiens

<400> 5822
Ile Leu Leu Leu Ala Asp Glu Lys Phe Asp Phe Asp Leu Ser Leu Ser
1   5   10   15
Ser Ser Ser Ala Asn Glu Asp Asp Glu Val Phe Phe Gly Pro Phe Gly
                20   25   30
His Lys Glu Arg Cys Ile Ala Ala Ser Leu Glu Leu Asn Asn Pro Val
            35   40   45
Pro Glu Gln Pro Pro Leu Pro Thr Ser Glu Ser Pro Phe Ala Trp Ser
        50   55   60
Pro Leu Ala Gly Glu Lys Phe Val Glu Val Tyr Lys Glu Ala His Leu
65   70   75   80
Leu Ala Leu His Ile Glu Ser Ser Ser Arg Asn Gln Ala Ala Gln Ala
                85   90   95
Ala Lys Pro Glu Asp Pro Arg Ser Gln Gly Val Glu Arg Phe Ile Gln

4985

```
                100                    105                    110
Glu Ser Lys Leu Lys Ile Asn Leu Phe Glu Lys Glu Lys Glu Met Lys
            115                    120                    125
Lys Ser Pro Thr Ser Leu Lys Arg Glu Thr Tyr Tyr Leu Ser Asp Ser
        130                    135                    140
Pro Leu Leu Gly Pro Pro Val Gly Glu Pro Arg Leu Leu Ala Ser Ser
145                    150                    155                    160
Pro Ala Leu Pro Ser Ser Gly Ala Gln Ala Arg Leu Thr Arg Ala Pro
                165                    170                    175
Gly Pro Pro His Ser Ala His Ala Leu Pro Arg Glu Ser Cys Thr Ala
            180                    185                    190
His Ala Ala Ser Gln Ala Ala Thr Gln Arg Lys Pro Gly Thr Lys Leu
            195                    200                    205
Leu Leu Pro Arg Ala Ala Ser Val Arg Gly Arg Ser Ile Pro Gly Ala
        210                    215                    220
Ala Glu Lys Pro Lys Lys Glu Ile Pro Ala Ser Pro Ser Arg Thr Lys
225                    230                    235                    240
Ile Pro Ala Glu Lys Glu Ser His Arg Asp Val Leu Pro Asp Lys Pro
                245                    250                    255
Ala Pro Gly Ala Val Asn Val Pro Ala Ala Gly Ser His Leu Gly Gln
            260                    265                    270
Gly Lys Arg Ala Ile Pro Val Pro Asn Lys Leu Gly Leu Lys Lys Thr
        275                    280                    285
Leu Leu Lys Ala Pro Gly Ser Thr Ser Asn Leu Ala Arg Lys Ser Ser
        290                    295                    300
Ser Gly Pro Val Trp Ser Gly Ala Ser Ser Ala Cys Thr Ser Pro Ala
305                    310                    315                    320
Val Gly Lys Ala Lys Ser Ser Glu Phe Ala Ser Ile Pro Ala Asn Ser
            325                    330                    335
Ser Arg Pro Leu Ser Asn Ile Ser Lys Ser Gly Arg Met Gly Pro Ala
        340                    345                    350
Met Leu Arg Pro Ala Leu Pro Ala Gly Pro Val Gly Ala Ser Ser Trp
        355                    360                    365
Gln Ala Lys Arg Val Asp Val Ser Glu Leu Ala Ala Glu Gln Leu Thr
        370                    375                    380
Ala Pro Pro Ser Ala Ser Pro Thr Gln Pro Gln Thr Pro Glu Gly Gly
385                    390                    395                    400
Gly Gln Trp Leu Asn Ser Ser Cys Ala Trp Ser Glu Ser Ser Gln Leu
                405                    410                    415
Asn Lys Thr Arg Ser Ile Arg Arg Arg Asp Ser Cys Leu Asn Ser Lys
            420                    425                    430
Thr Lys Val Met Pro Thr Pro Thr Asn Gln Phe Lys Ile Pro Lys Phe
            435                    440                    445
Ser Ile Gly Asp Ser Pro Asp Ser Ser Thr Pro Lys Leu Ser Arg Ala
        450                    455                    460
Gln Arg Pro Gln Ser Cys Thr Ser Val Gly Arg Val Thr Val His Ser
465                    470                    475                    480
Thr Pro Val Arg Arg Ser Ser Gly Pro Ala Pro Gln Ser Leu Leu Ser
                485                    490                    495
Ala Trp Arg Val Ser Ala Leu Pro Thr Pro Ala Ser Arg Arg Cys Ser
            500                    505                    510
Gly Leu Pro Pro Met Thr Pro Lys Thr Met Pro Arg Ala Val Gly Ser
        515                    520                    525
Pro Leu Cys Val Pro Ala Arg Arg Arg Ser Ser Glu Pro Arg Lys Asn
```

```
           530                    535                    540
Ser Ala Met Arg Thr Glu Pro Thr Arg Glu Ser Asn Arg Lys Thr Asp
545                    550                    555                    560
Ser Arg Leu Val Asp Val Ser Pro Asp Arg Gly Ser Pro Pro Ser Arg
                  565                    570                    575
Val Pro Gln Ala Leu Asn Phe Ser Pro Glu Glu Ser Asp Ser Thr Phe
              580                    585                    590
Ser Lys Ser Thr Ala Thr Glu Val Ala Arg Glu Glu Ala Lys Pro Gly
          595                    600                    605
Gly Asp Ala Ala Pro Ser Glu Ala Leu Leu Val Asp Ile Lys Leu Glu
      610                    615                    620
Pro Leu Ala Val Thr Pro Asp Ala Ala Ser Gln Pro Leu Ile Asp Leu
625                    630                    635                    640
Pro Leu Ile Asp Phe Cys Asp Thr Pro Glu Ala His Val Ala Val Gly
                  645                    650                    655
Ser Glu Ser Arg Pro Leu Ile Asp Leu Met Thr Asn Thr Pro Asp Met
              660                    665                    670
Asn Lys Asn Val Ala Lys Pro Ser Pro Val Val Gly Gln Leu Ile Asp
          675                    680                    685
Leu Ser Ser Pro Leu Ile Gln Leu Ser Pro Glu Ala Asp Lys Glu Asn
      690                    695                    700
Val Asp Ser Pro Leu Leu Lys Phe
705                    710
```

```
<210> 5823
<211> 2585
<212> DNA
<213> Homo sapiens

<400> 5823
nggggttctc caaaaagtgt gttagttccc ggtcacctga gctccgggtg acgcggctgc
60
ggtagctgcg gatacaagcc ttccgcgggt cctgcctggc gaccccgacc tcctcctgct
120
gtctctccgc tccgccaccc cgaacccgcc aaggtcctgt ccttttcctc ctgtcctttg
180
ccagcgttgg gccggaccgg gccgagccgg gccgcccggg cgcagtcttt aaccatggcg
240
tccctcttca agaagaaaac cgtggatgat gtaataaagg aacagaatcg agagttacga
300
ggtacacaga gggctataat cagagatcga gcagctttag agaaacaaga aaaacagctg
360
gaattagaaa ttaagaaaat ggccaagatt ggtaataagg aagcttgcaa agttttagcc
420
aaacaacttg tgcatctacg gaaacagaag acgagaactt ttgctgtaag ttcaaaagtt
480
acttctatgt ctacacaaac aaaagtgatg aattcccaaa tgaagatggc tggagcaatg
540
tctaccacag caaaaacaat gcaggcagtt aacaagaaga tggatccaca aaagacatta
600
caaacaatgc agaatttcca gaaggaaaac atgaaaatgg aaatgactga agaaatgatc
660
aatgatacac ttgatgacat ctttgacggt tctgatgacg aagaagaaag ccaggatatt
720
```

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gtgaatcaag ttcttgatga aattggaatt gaaatttctg gaaagatggc caaagctcca
780
tcagctgctc gaagcttacc atctgcctct acttcaaagg ctacaatctc agatgaagag
840
attgaacggc aactcaaggc tttaggagta gattagtcaa aagaagtcat actattttgc
900
ttacttataa ttatgtagta taaaccaagc acagtgcaga tttcttttac aaaacacatg
960
tattttgcaa aaaaaaaaa atggagacca tgagtgaaca gttgtttcct aacccatggc
1020
tatttagaat cttttgccaa agaatgacaa tgatgcaaaa atgggaacag tttggatttt
1080
aattagaact gtttatgagt gatgatgtgt aaaaagttga cttctctttt gcatggcaca
1140
gagaaattat attccttact tcatgtcagt ttatgttcta aatctttttc actgaatata
1200
aaaatcttgt aaatgccat taggcaccaa cttaaagagg gttgtaaaaa tattaaaagt
1260
atatcgttaa ttctgtatct gttgcttgtc ttttgtaagt gattatgtgt tatgaccata
1320
ggtggttaca gctgccaaat tatttttaaa tggtcaaaaa gaagagtgct atttaaacat
1380
ctgtcttaaa caaaaactgt cataactttt cttttttttt tttccattag gagaacattc
1440
tagttggtaa atttcaaaat gtgcttgaca cctgccttaa atagcacaga cctattgtgc
1500
acatctttaa attatttcag ctggcagaaa agaattacat ttaaaactga aatcaaggcc
1560
tcaatacaaa gattatcctg gctctttct atctctgtgg gcctaattga aatatgtact
1620
cttattttag acacgcctct gttaaaacag gtgttttaac atgttaaaac agaccaggtt
1680
ttcctggtct cagacctatg atgacttgtc cctttgatgt cactactgtg aattgaatat
1740
aattagtaaa aatagacgat gaataaataa cactttatag taagaaaaca atatattttg
1800
gccatctaaa aatgagaatt ataattatat gaattataat ttaaactgtt taattttgtt
1860
taatgtgtat attgaatctt ccaaattgaa gccattattc tcaattaagt actacaacta
1920
tgacaatgct tgacctacat ttctaaaata aaaattcaca tttttgata aataaactac
1980
agttttacca gaaattacta tctaaatgtg tattagcagt attttttaag gtgaaattgc
2040
cttggtatct aatgaatgtg tagacaggga gataaaatga aggattgcca gactagttag
2100
aatagaattt aggattaggt tagttttgaa aaatgatgtt gtaatatatg ggttctaaca
2160
catcctacca taaaaactgg aggagatatg tgtaacctgg ttaatttggg atggtggaca
2220
ttttgggcta atactgacaa aatacatctt aggactagta tacatgtgac acggattgct
2280
aggaggaatg aaaaactaaa ctgtatagtt tatattccgt aaaccatttt ataatgttca
2340
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4988

```
aagattaggt tttgttattg atagtattaa atacacagtt tctcttaaca gtgatgggtg
2400
aaaacatttt accggattat ggaatgttta ccagaacatg ttttgattct tgaatgtaca
2460
taataatgcc atctaactta tttacgttct tgtttacatg tgggagcttt tgttttcaaa
2520
aattattttg ttaaaaaatc tcaataaaga tttattattg ttgttctttt ctaaaaaaaa
2580
aaaaa
2585
```

```
<210> 5824
<211> 213
<212> PRT
<213> Homo sapiens
```

```
<400> 5824
Met Ala Ser Leu Phe Lys Lys Lys Thr Val Asp Asp Val Ile Lys Glu
1               5                   10                  15
Gln Asn Arg Glu Leu Arg Gly Thr Gln Arg Ala Ile Ile Arg Asp Arg
            20                  25                  30
Ala Ala Leu Glu Lys Gln Glu Lys Gln Leu Glu Leu Glu Ile Lys Lys
        35                  40                  45
Met Ala Lys Ile Gly Asn Lys Glu Ala Cys Lys Val Leu Ala Lys Gln
    50                  55                  60
Leu Val His Leu Arg Lys Gln Lys Thr Arg Thr Phe Ala Val Ser Ser
65                  70                  75                  80
Lys Val Thr Ser Met Ser Thr Gln Thr Lys Val Met Asn Ser Gln Met
                85                  90                  95
Lys Met Ala Gly Ala Met Ser Thr Thr Ala Lys Thr Met Gln Ala Val
            100                 105                 110
Asn Lys Lys Met Asp Pro Gln Lys Thr Leu Gln Thr Met Gln Asn Phe
            115                 120                 125
Gln Lys Glu Asn Met Lys Met Glu Met Thr Glu Glu Met Ile Asn Asp
            130                 135                 140
Thr Leu Asp Asp Ile Phe Asp Gly Ser Asp Asp Glu Glu Glu Ser Gln
145                 150                 155                 160
Asp Ile Val Asn Gln Val Leu Asp Glu Ile Gly Ile Glu Ile Ser Gly
                165                 170                 175
Lys Met Ala Lys Ala Pro Ser Ala Ala Arg Ser Leu Pro Ser Ala Ser
            180                 185                 190
Thr Ser Lys Ala Thr Ile Ser Asp Glu Glu Ile Glu Arg Gln Leu Lys
            195                 200                 205
Ala Leu Gly Val Asp
    210
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```
<210> 5825
<211> 1940
<212> DNA
<213> Homo sapiens
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<400> 5825
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60
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aaatacagac caaatgtcac ctctctgttc tgtcattctt ttatcactca gcagacagct
120
agtctgggcc aggctctacg ctggaacgag ggacacagga atgagggatt tttttcccacc
180
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240
atcagggcca gcaacctcac ctcgcctcac ctgtccgtcc ttagaagggc atttgtacac
300
tctgaaaagc aacggtcttc aggttccttc tttctggatt actaagatct tgattttgat
360
gtgtttcagc tggaaagggc taccctgca aaacatgtaa gatagtgctg aactccatag
420
aacagtacca agctcatgtc agcggcttca aacacaagaa ccagtcacca aaaacagtgg
480
catcatccct gggccagatt ccaatgcaaa ggcaacccat tcagaaagac tcaaccacct
540
tggaagacta gaggtgattc tgcccagcat cccatattgg gccagccatg agccagcttc
600
ccgtgactgc tcagcccttg gctccctctt gctcgttgtt ctcaccagga aagtacacgg
660
gcctgaggca ggattgggcc acagacagcc tctcattggt ccgggctaat tcactcctgc
720
tgctcccctt tggcaggggt cctgtaggtc atgacagggg aggcaagggt attgagagac
780
tcggggtctc gcggggtggt agtttggagg gtggctttcc ccatttccca acccctctgg
840
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900
tcttgcaact aaagagcaga gatctctctg ggccctagac atttccagca aaacctggaa
960
ctttcatgcc aaacctgggg cagggcagga aacagaggaa atggctgcaa catgggagct
1020
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1080
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1140
acaatcttgg cggagcattg ctacccccgc tgccccctcc acagttcctg aatggtgcta
1200
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1260
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1320
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1440
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1500
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1560
agtgaggaac aggcgtttcc caggccccac acccagattt ctctatcttt gctgtgtttt
1620
atggcctggg actgagtcca cacggataga ttttttcctgg taaccttgag acgagaattc
1680
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4990

```
caaggagtgt caccatcaga ggcttctctt cattgtgtca aagaagcccc tagctgctct
1740
cgtggcctcc ttcccccact ccctatccct tcacctgtga aatgcctttg ctttgcatat
1800
tgtgtgtgga tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tatgtgtgtg cttctgtgtg
1860
tgcctaatgc tctgtctctt ggtcactgaa gcatccaaat aaagaatttc cctcatgggc
1920
cagactaaaa aaaaaaaaa
1940


<210> 5826
<211> 88
<212> PRT
<213> Homo sapiens


<400> 5826
Val His Thr Asp Arg Phe Phe Leu Val Thr Leu Arg Arg Glu Phe Gln
1               5                   10                  15
Gly Val Ser Pro Ser Glu Ala Ser Leu His Cys Val Lys Glu Ala Pro
            20                  25                  30
Ser Cys Ser Arg Gly Leu Leu Pro Pro Leu Pro Ile Pro Ser Pro Val
            35                  40                  45
Lys Cys Leu Cys Phe Ala Tyr Cys Val Trp Met Cys Val Cys Val Cys
        50                  55                  60
Val Cys Val Cys Val Cys Val Cys Phe Cys Val Cys Leu Met Leu Cys
65                  70                  75                  80
Leu Leu Val Thr Glu Ala Ser Lys
                85


<210> 5827
<211> 428
<212> DNA
<213> Homo sapiens


<400> 5827
ttttaggcaa cacttcgtat gttttaagag ctaaagcaac taagaacaca gtactgtgac
60
ccacactaag gaatccaggg aagagaagca ttgccttagg ggtcacagca agccagagag
120
tccagattaa aagctccagc ttgggggcct gtttcaaatg accaggtagg ttcagccacc
180
ccctggagac tcgaatagga agaatactga gatacaacat ttgggagaga gatgagaaag
240
aagcccagct ttataaagag ggggcgttcc cagttactta atctatgcct ggcccagaaa
300
aggtgaaaac atgaggtggg ggacatgaaa attgttaaat aaagtgaact gtgcagtaag
360
aatgagttgg gcgaggtgca ccagcagagg ggaggcaggt aggaaggagg aggcatgatg
420
aggggggag
428


<210> 5828
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```
<211> 106
<212> PRT
<213> Homo sapiens

<400> 5828
Met Pro Pro Pro Ser Tyr Leu Pro Pro Leu Cys Trp Cys Thr Ser Pro
1               5                   10                  15
Asn Ser Phe Leu Leu His Ser Ser Leu Tyr Leu Thr Ile Phe Met Ser
            20              25                  30
Pro Thr Ser Cys Phe His Leu Phe Trp Ala Arg His Arg Leu Ser Asn
            35              40                  45
Trp Glu Arg Pro Leu Phe Ile Lys Leu Gly Phe Phe Leu Ile Ser Leu
        50              55                  60
Pro Asn Val Val Ser Gln Tyr Ser Ser Tyr Ser Ser Leu Gln Gly Val
65                  70                  75                  80
Ala Glu Pro Thr Trp Ser Phe Glu Thr Gly Pro Gln Ala Gly Ala Phe
                85                  90                  95
Asn Leu Asp Ser Leu Ala Cys Cys Asp Pro
            100             105
```

```
<210> 5829
<211> 5747
<212> DNA
<213> Homo sapiens

<400> 5829
nnggcacgag cggaggagga cgcgagcccc ttgcgggcgg tcatcacagc ccagcctcgg
60
ggctgccaca gcgcgttgcg cctgtgcgcc ctcggtcccc gcgtccactg agcgccgcgc
120
tcggggatgg ggcccggccg gccggccccc gcgccctggc ctcgtcacct gctgcgctgc
180
gtcctgctcc tcgggtgcct gcacctcggc cgtcccggcg ccctggga cgccgccctc
240
ccggaaccca acgtcttcct catcttcagc catggactgc agggctgcct ggaggcccag
300
ggcgggcagg tcagagtcac cccggcttgc aataccagcc tccctgccca gcgctggaag
360
tgggtctccc gaaaccggct attcaacctg ggtaccatgc agtgcctggg cacaggctgg
420
ccaggcacca acaccacggc ctccctgggc atgtatgagt gtgaccggga agcactgaat
480
cttcgctggc attgtcgtac actgggtgac cagctgtcct tgctcctggg ggcccgcacc
540
agcaacatat ccaagcctgg caccttgag cgtggtgacc agaccgcag tggccagtgg
600
cgcatctacg gcagcgagga ggacctatgt gctctgccct accacgaggt ctacaccatc
660
cagggaaact cccacggaaa gccgtgcacc atcccttca aatatgacaa ccagtggttc
720
cacggctgca ccagcacggg ccgcgaggat ggtcacctgt ggtgtgccac cacccaggac
780
tacggcaaag acgagcgctg gggcttctgc cccatcaaga gtaacgactg cgagaccttc
840
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tgggacaagg accagctgac tgacagctgc taccagttta acttccagtc cacgctgtcg
900
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His Gly Leu Gln Gly Cys Leu Glu Ala Gln Gly Gly Gln Val Arg Val
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Thr Pro Ala Cys Asn Thr Ser Leu Pro Ala Gln Arg Trp Lys Trp Val
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